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EXCITEMENT IN PROBLEM SOLVING

by

Joseph Chittum

GREAT WESTERN PUBLISHING CO., INC.
416 Magnolia, Glendale, CA 91204

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PREFACE

How could a book on Problem-Solving, as a personal belief, ever be justified, because the doctrine seems so extraordinarily simple?

I wish to welcome you to this opportunity to think about Problem-Solving with me. I hope that you enjoy my account of how exciting life can be as much as I have enjoyed writing it. Assembling this material has been fascinating and a great challenge.

For many decades I have probed for a warm, rational and easily understood belief for people who love to get involved. I hoped it would be the most natural and the most useful force in our rapidly changing world. In the process, I think that I have uncovered a conviction that may qualify as such a powerful resource. Simplicity may be its greatest strength; cohesiveness may be its greatest charm. But, it contains the substance of our most magnificent dreams. In it our more ingenious plans, greater effort, harder work, better learning and more efficient management receive automatic rewards. To my great satisfaction, I found that countless numbers of people have adopted this faith over the millenia. Also, the stage is set for widespread increase in its practice.

I call this belief, Problem-Solving, because I want its name to be highly descriptive of the faith. Also, I want everyone to realize how common this belief has become. So, I hope to accomplish my objective by using a title that we hear so often. Besides, my belief needs these words, Problem-Solving, to paint a picture of human life expanding without limit.

To take further advantage of our language, I have chosen to give distinctive meanings to some other useful words. Thus, I use the expression, "*human beings*," to signify individuals who are naturally both men and women. My employment of the

word, "*mankind*," is as a symbol of numbers and concentration of human beings on earth. Then, I want my word, "*humanity*," to describe the deepest warmth of our human feelings. My use of the word, "*species*," is biological to signify human beings as distinguished from other animals. Naturally, I use the word, "*society*," to indicate groups of people with organization. My resort to these distinctive meanings for important words makes my job of depicting the vast pertinence of this belief more intelligible.

Our great hope in Problem-Solving, as a human resource, mushrooms from its demand that each of us dedicate ourselves to work harder for human advancement. This dedication means involvement in enriching our personal lives, making mankind more reasonable but still cohesive, warming-up our own feelings until we can catch a more beautiful vision of humanity, improving the image and durability of our human species and increasing the stability and cooperation of our societies. I try to present a relatively complete analysis of this belief, so its ramifications become quite apparent.

Believers in Problem-Solving are people on the move. I can think of no other belief that drives us so hard to budge the establishment and to make everything better. In fact, wherever we go upward as human beings, our advancement takes place in the framework of *Problem-Solving*. It is a rigorous, progressive discipline, but far from rigid. For certain, no one must think that its believers are stuffy or bigoted. If I want to find someone who knows that he does not have all of the answers, but is still resolutely searching for something better, I turn to members of this rational belief.

Problem-Solving has enormous immediate value, vast forward-looking usefulness and immense personal worth all wrapped up in it. It is a belief in coping with present difficulties and with all evolving troubles; it is not obsession with simple speculation about some special future. It makes us both develop plans for improvements and struggle to advance; it does not make us work for some structure. It demands that we keep going upward; it does not demand that we keep ahead of anyone else. Thus, I cannot help but marvel at the vitality and vast accomplishments of this belief.

I realize that admonitions for people to improve themselves are unbelievably old. Any of us can find them in writings of Old Testament prophets, sayings of Confucius, works of Plato, teachings of Aristotle, Parables of Jesus and many other writings of

ancient world religions and philosophies. Contributions since then have been so extensive as to build-up a mammoth background for such belief. Even so, dedication to *Problem-Solving's* great reasonableness and faith in the complete rationality of our Universe started slowly. Only with the development of science has realization expanded rapidly that our Universe operates strictly through reasonable rules, an increasing number of which we can learn. Now, although our belief started, no one knows how early and has such a long way to go, I hope that *Problem-Solving* may soon become the most rapidly growing belief in human experience.

After dramatic beginnings and recent explosion of efforts for improving human life, the expertise of one writer cannot be very great. I can only make this book an account of my own particular version of *Problem-Solving*. Actually, with enough effort, you might produce your own improved version. Further, if I gave thorough acknowledgement to sources, my discussion would turn into a series of quotations. To avoid these over-numerous references, I boldly dispense with recognitions and extensive proofs. As a special exercise, I recommend that you look for your own references. Thus, I simply push forward to make my discussion of this warm, rational belief as clear as possible, according to my own quite incomplete insight.

My purpose in promoting this warm, rational belief may seem peculiar or completely out of place to many. Maybe a majority will still say that we must be rough and tough to keep dissenters (of course from our own rigid set of precepts) in line. But, I feel that any strong human resource must count on our hard work, logical reasoning, deep compassion and friendly persuasion to make improvements. Others, who are strong proponents of some classical theistic religion, may claim that their orthodox beliefs are rational. But, usually such claim is largely at variance with the concept of rationality that I hold here. Followers of still other beliefs may insist that irrationality is desirable. They would ask "who should try to grasp the significance of the imponderable." But, *Problem-Solving* refuses to allow such restraint of curiosity. Its believers must explore for greater understanding without limit.

Many scientists might deny that a systematic faith can be rational. They might claim that any rational belief would be a science. Here, I think *Problem-Solving* may amaze these exponents of the reasonable, when they learn that this belief in coping with difficulties includes all of science. *It embraces any*

effort to unearth knowledge and understanding of anything in the Universe. Such faith takes in any dynamic system of critical thought that evolves from experiments constantly being improved. Our general conviction, that there is always a possibility of improving almost everything, expands our spirit of discovery into every area of human interest, tangible and intangible.

Development of progressive Christians with deep social concerns is an indication of an awakening to our rational belief in doing better. Such Christians have become aware of our tremendous human problems and our desperate need for more involved enthusiasts. Many of these dual believers have caught the spirit of assuming widespread responsibilities and are pushing forward to advance all situations that threaten people. Such Christians are through waiting for some supernatural power to do their work for them. The severe weakness of any ritualistic superstition troubles them. At the same time, the examples and teachings of Jesus easily justify their dedication to relieve all sorts of human distress. It is no surprise that powerful exhortations to grapple with human problems are creeping into sermons in many churches, Socio-Christians are becoming more rational and joining *Problem-Solving*. But, some of these people are leaving their churches.

I am aware that multitudes from many other backgrounds hold firmly to our belief in getting involved in solving human problems. When any of them proceed with progressive action, they have joined *Problem-Solving*, whether they call it by that name or not. The theme of their belief might well be "now is the time for persistent action by us to lift-up human beings." These people keep making progress in attitude, personality and behavior. They exert strong pressure in their societies to improve social performance and institutions. *Problem-Solving* may have obtained a good start toward more friendly cooperation in our world, even if it has an infinite distance to go.

CHAPTER I

PRELUDE: PRELIMINARY POSITIVES AND NEGATIVES

What is Problem-Solving and how does it work as a human resource?

Problem-Solving is a delightful faith that is present in all of us who are striving to do better extensively and continuously. We adopt it as our belief, when we dedicate our lives to working on problems. If we are committed to this belief, we do not count on some magic force to carry out our responsibilities. We have a strong spirit of reliance on ourselves to get in there and help relieve human difficulties with vigor. Such determination springs from the conviction that we dare not remain regressive or even static. We are the ones who must improve the world with our progressive efforts.

We develop enormous enthusiasm, because our remedial activities are vastly rewarded by making our lives richer and fuller. As we believe that all human improvements are partly up to us, our responsibilities are continually expanding. We must learn more about how our Universe operates and must use these principles to prevent or relieve more human difficulties. Such belief in making improvements is so simple that no one can completely disregard it; such drive for progress is so enigmatic that no one can comprehend its fullest possibilities. Largely through our own efforts, we must become stronger physically, mentally and emotionally to increase our effectiveness. In cooperation with others, we must advance all social situations to keep human beings in step with our Universe. *Problem-Solving* constitutes the whole framework of our lives as we struggle upward.

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effort to unearth knowledge and understanding of anything in the Universe. Such faith takes in any dynamic system of critical thought that evolves from experiments constantly being improved. Our general conviction, that there is always a possibility of improving almost everything, expands our spirit of discovery into every area of human interest, tangible and intangible.

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I am aware that multitudes from many other backgrounds hold firmly to our belief in getting involved in solving human problems. When any of them proceed with progressive action, they have joined *Problem-Solving*, whether they call it by that name or not. The theme of their belief might well be "now is the time for persistent action by us to lift-up human beings." These people keep making progress in attitude, personality and behavior. They exert strong pressure in their societies to improve social performance and institutions. *Problem-Solving* may have obtained a good start toward more friendly cooperation in our world, even if it has an infinite distance to go.

CHAPTER I

PRELUDE: PRELIMINARY POSITIVES AND NEGATIVES

What is Problem-Solving and how does it work as a human resource?

Problem-Solving is a delightful faith that is present in all of us who are striving to do better extensively and continuously. We adopt it as our belief, when we dedicate our lives to working on problems. If we are committed to this belief, we do not count on some magic force to carry out our responsibilities. We have a strong spirit of reliance on ourselves to get in there and help relieve human difficulties with vigor. Such determination springs from the conviction that we dare not remain regressive or even static. We are the ones who must improve the world with our progressive efforts.

We develop enormous enthusiasm, because our remedial activities are vastly rewarded by making our lives richer and fuller. As we believe that all human improvements are partly up to us, our responsibilities are continually expanding. We must learn more about how our Universe operates and must use these principles to prevent or relieve more human difficulties. Such belief in making improvements is so simple that no one can completely disregard it; such drive for progress is so enigmatic that no one can comprehend its fullest possibilities. Largely through our own efforts, we must become stronger physically, mentally and emotionally to increase our effectiveness. In cooperation with others, we must advance all social situations to keep human beings in step with our Universe. *Problem-Solving* constitutes the whole framework of our lives as we struggle upward.

Our discussion of beliefs uses as its fundamental definition that our serious, freely-committed actions disclose what we believe. These real beliefs are convictions that we reveal to ourselves and partly to others by what we do with our lives through our technique of living. Our own behavior, in its attitude, spirit and actions, tells the correct story of our faith. We can scarcely disbelieve what is so much a part of us. Instincts and immaturity make us act somewhat involuntarily in our earliest years. As we mature, our convictions tend to enclose our involuntary responses and exercise substantial control over our actions. At that point in our lives, our actions and beliefs coincide completely enough for our definition to be significant.

Frequently we do not believe those high-sounding ideas that we utter in public with such sanctimonious pretense. But, we definitely trust the serious implications and intentions of what we do voluntarily in private and freely in public. Our beliefs are not revealed when we are putting on an act of a play or working under pressure from a rigid authority. Still, if we believe in *Problem-Solving*, we show it by participating in all kinds of real-life efforts to make progress upward. We join all struggles for improvement in every facet of human existence.

Origin

With our usual curiosity about origins of beliefs, we might want to search for some founder of *Problem-Solving*. But, actually such a search for a person who started our belief is unimportant and essentially impossible. Our doctrines are just too natural and too developing for us to discover who first practiced and promoted coping with difficulties. We must accept the idea that struggling for human-improvements had spontaneous origins. How would our species have survived without it? Undoubtedly our *Problem-Solving* belief antedated human beings.

The utter simplicity of *Problem-Solving* as a belief must have been largely responsible for its starting impulse, thousands of millenia ago. Our ancestors encountered troubles, so they did something to relieve them. This straight-forward way of struggling with difficulties produced our belief's greatest charm. Now, our experimental efforts have propelled us into the complexity of our modern technology.

Along the way toward complication, our ignorance and anxieties have caused us to adopt many accessory doctrines. Often

we have wrapped our beliefs up in elaborate magic rituals. In between times, we have felt the pull toward our simple belief that involves us in preventive or remedial action on difficulties. Then, we have resorted to common sense that seeks to be more sensible through better understanding. In the past, our troubles stimulated us to do something reasonable to overcome them, even while we indulged in useless incantations. At present, its simplicity is still responsible for the effectiveness of our belief in dealing with many human perplexities.

Our belief in preventing and relieving human difficulties had spontaneous origins partly because it works so well. The inspiration of its broad practicality makes ideas spring into being. When we examine other, more ritualistic faiths, we find that most of them have narrow, irrational goals. They try to give us special privileges, make us good, get us into heaven, simply rearrange our society or let us escape responsibility. As understanding human beings though, we really thrive on wide-spread involvement in progress without restrictions. Quite conveniently, *Problem-Solving* turns out to be such a free and progressive belief that is quite effective. In many areas its effectiveness is altogether too obvious, as it makes us work on many different kinds of human difficulties with increasing skill.

One important source of our belief in working on troubles must have been its reasonableness. Facts and understanding got a start quite early, even though they were elementary. Human beings in earliest times knew that certain actions are natural and others are impossible. When we are hungry, we must eat or starve; when we eat certain things, we die of poisoning. Light shines through clear water, but does not pass through a tree. Such rational observations of how the Universe works helped to give *Problem-Solving* a spontaneous beginning. Of course, where ignorance and superstition prevailed many ideas were non-sensical and filled with magic. Still, fundamental rationality of thought and sensible warmth of feelings kept attracting us back to a faith that demanded understanding as well as tenderness. We have a powerful urge for comprehension and a drive to apply these insights toward doing something more useful and progressive.

Initiation

Our preventive and remedial efforts must produce a united front of continuous human advance. We must act on our most critical situations first, our next lesser emergency in turn and so

on down the line. Thus, private preference enters our decisions about importance of problems. Yet, we dare not avoid issues because of complication. Even our ignorance is only a temporarily acceptable excuse for inaction.

In starting our *Problem-Solving* efforts we must participate in self-invigoration because improving self-esteem is particularly important. Our prime concern remains to determine how we can make greater progress in meeting our own responsibilities. This probing-of-self helps us acquire greater realization of our identity. Answering this challenge to enrich our personal lives enables us to measure what our potential might be. Even while each of us becomes a more important person, self is only a small part of our need for more involvement.

Deeper respect for others and more active collaboration with one another is also intrinsic in coping with difficulties. Our belief demands behavior that proclaims interdependence. Identity with people is necessity; greed for self is anathema. We are alert to help others more in a friendly cooperative fashion, instead of trying to get ahead of them as competitors. Our cooperative acts may not be one hundred per cent unselfish. We may need more help from others when we work on our more serious problems and they are more apt to help us when we show a more cooperative spirit. Our difficulties entwine themselves around whoever is near. Actually, we may be able to help ourselves only by helping others and expressing deep appreciation for assistance received in return. Our dependence on each other is beyond measurement. We form an universal association of those who enjoy the interlocking benefits of mutual aid in overcoming difficulties.

Expansion

Our accountability spreads out much further than our immediate surroundings. In all important directions in our society, we must answer any desperate call for help from any group of people. Our being beautiful, but inactive, examples of human beings retards social progress. In fact, any inertness can make us slaves of freedom-from-social-responsibility. To overcome this serfdom, we must devote appreciable effort in helping to make the mess, which is our society, more livable. We can make any society more alive when we work energetically on its problems. Our working together builds a sense of community. In addition, our preventive and remedial actions help construct a more stable outlook for human beings. Such permanence of people

on earth may require improving cooperative social action to build greater unity.

We work hard that life for all of us on earth will become warmer, because increasing tenderness creates the environment in which we can solve problems more easily. To accomplish this purpose we strive everywhere to give human feelings better recognition and more decent treatment. Our efforts must help build finer emotional surroundings where humanity receives deeper appreciation. At each opportunity we try to make that unsightly image of our species look more beautiful. Our belief demands increasingly strong opposition to static and degenerating feelings, so our species will seem more worthy of survival.

Our belief has no restrictions in its improvement efforts, even to the enrichment of its own doctrines. Certain faiths try to change human beings so they fit into a heartless, brutal world. Others attempt to provide an escape from unfeeling reality in our society. Still others want to make over our world, so the new structure can stand barbaric and brutish human beings. But with its expanding objectives, our *Problem-Solving* belief requires that we improve ourselves personally, human beings generally and the world that we live in totally. In this action, if we need some doctrines or techniques, we must invent them.

Distinctions

In our *Problem-Solving* belief, we make distinctions as important as those between "improving action" and "hustle and bustle." During our "improving action" we concentrate on making real human progress. Our progressive efforts must help relieve tensions, warm up feelings, increase understanding and advance opportunities. They must also make our every day work more efficient and effective. In our "hustle and bustle" what happens is quite routine. We simply carry out required hurry and scurry in the same old way to keep our daily procedures moving as usual. While we are coping with our difficulties, part of our action must penetrate "hustle and bustle" with "improving action." Routines can become better continuously, if we believe that improvement is possible and inject promising innovations.

Improvements in our world demand our greater participation, rather than our escape to the spectators' stand. We must take part in action that produces relief for our own difficulties, without overlooking any of them. Our sharing in the work of improving our societies must proceed and we dare not shirk any

of our social responsibilities. *Problem-Solving* even requires that our knowledge and ways of doing things be improved, instead of our allowing any tools to remain static. By entering actively into the work of creating human advance, we can increase our stake in progress. When we relax and watch things happen from the sidelines, we miss the exhilaration of being part of the Universe in motion.

While working on problems, we must learn to distinguish our "deepest satisfactions" from "tingle" sensations. In this sensitivity training, our feelings build up increasing tenderness and expanding warmth so our perceptions are keener. Such discipline sharpens our ability to detect the exhilaration obtained from preventing or remedying any difficulty. Our mending some personal or social tragedy clearly gives us more elevated feelings than some second rate "tingle" sensation. In this latter case, our quiver might come from relatively cheap pursuits, like dropping a rock over a cliff, having a high-speed ride or eating something sweet. Our ability to select the most inspiring feelings is one of our great compensations in *Problem-Solving*. At least, we must decide in favor of increasingly warm feelings, arising from making human improvements, instead of some flashy prickle coming from self-indulgence.

Drive

Problem-Solving has quite eager and strong propulsions that drive us upward. Our drive for improvements seems to have two general parts, passion to learn how to make advances and enthusiasm to get results. Both challenges develop as we face each human situation as our problem. At first, we must discover rules of the Universe that will provide us with useful comprehension. Here, our intense desire for understanding can build up considerable pressure for learning. Then, our new comprehension can help us carry-out steps in human advancement applying these rules. Our activity in applying preventives and remedies creates all of the excitement of an important experiment in progress.

Our vigorous urge for progress has its focus on the great possibilities for a substantially improved future. We do not long for the "good old days," even if our past situations have been fairly satisfactory. After all, our forebears obtained most of their deep pleasures by working on problems. Also, backward glances are only to discover if our performances have been effective or ineffective. We can have little acclaim for our

contemporary condition, no matter how praiseworthy. Unknown to us, many of our present conditions are in a state of crisis and few of our plights are worthy of our adoration. In addition, our eagerness for a better future creates an invigorating concentration on preventives and remedies.

Our rational efforts to overcome one difficulty after another lead to greatest pleasure and deepening satisfactions. No one can say that *Problem-Solving* takes the joy out of life, because vigorous progressive action is where our fun is most enjoyable. In our belief, self-recognition comes so spontaneously that any other special rewards are not needed to enrich our expectations. Our exhilarations, resulting from improvements obtained with our help, are the greatest rewards that we can imagine. But, in *Problem-Solving*, we can expect still more inspiration with more experience.

Dynamics

Everybody and everything is on the move in *Problem-Solving*. In fact, our belief itself cannot remain in a static mold. When we are dedicated to this belief, we cannot remain at all inactive on our troubles. Then, the spirit of our belief is contagious. If we observe someone else working on a difficulty, we are strongly encouraged to participate in their remedial efforts. When we start developing remedies for our own troubles, others are attracted strongly to join our endeavors. Action in our work on problems may generate all of the dynamics of a crusade. Our preventive and remedial enterprises must be undertaken with the zeal and enthusiasm that continues to get more action going. No human situation is acceptable as beyond our efforts to achieve improvements at an appreciable rate.

Our dynamic requirements for *Problem-Solving* focus on the difference between the meanings of our two expressions, "better continuously" and "good." In our belief, we must cultivate "better" quality of living and quite "continuously," in order to solve more problems more effectively. By this means, we can keep life moving upward steadily. Our satisfactions do not really come from just being "good"; our fascination with living right now springs from our work to keep doing "better." Rapid enrichment of ourselves and our societies is what counts with us.

Further clarification in meaning of words seems necessary to show how *Problem-Solving* embraces the passage of time. Dynamics for our belief omits comparison of ourselves with others.

Instead, it concentrates on making our own actions "better" than they were previously. Our doing "better continuously" does not mean that we must do "better" than someone else. Rather, we must take advantage of our opportunities now and struggle upward vigorously with the passage of time.

When we consider our other expression, doing "good" suggests some kind of rigid standard for human conduct. Supposedly, if we behave in a conventional manner we might be satisfied with our lives. In contrast, *Problem-Solving* drives us upward, irrespective of where we are, and even points out the direction that we must go. Fortunately, we can see the danger in just being "good" as a trap that stultifies. We can understand that, when we have a standard of conduct and fall below it, we either feel guilty or lower the standard. Thus, while we are working harder on more problems, our assessment of quality in ourselves and our societies must use gauges that measure our rate of advancement.

Technique

We can scarcely over-emphasize the importance of more effective procedures, when attempting to solve human problems. Most of our difficulties only respond favorably, when our overall emotional surroundings are increasingly friendly. If we do not want to create more problems than we solve, our strategy must develop greater sympathy and warmth. Naturally, our approach to solutions is almost always more effective when our tenderness is more spontaneous. Hence, we have an obligation to ourselves to cultivate greater human compassion.

One of our essential techniques for working on problems involves the art of sharing. We must develop means for distributing material things, without spoiling people with undue expectations. Such an art might be referred to as sharing abundance. Our ways of relieving difficulties must consider the dividing-up of our economic workload among people. We could call this technique full employment. Then, problem-solvers must practice the art of spreading knowledge and training around quite freely. By this process, we might achieve equal opportunities. As we keep emphasizing, our beautiful emotions must enter our mutual distribution operations. All of us can get involved in loving our neighbors.

If we want to build unity and cohesion in our society, we must use fairness in our efforts on improvements. While we work to prevent or remedy some human trouble, greater justice

must be given strong consideration. Many times our troubles disappear, when impartiality of human rights becomes a dominant procedure in our struggle to deal with our difficulties. At least, we can nearly always improve the integrity of the way that we attempt to deal with our problems.

Somewhat strict human behavior may have certain utility, as we concentrate our efforts on overcoming difficulties. Sometimes our human rules are useful in designing ways for obtaining cooperation. Still, we must consider restrictions that are controls-for-the-sake-of-controlling as approaches to the futile. Any really effective guide for our human conduct requires sublimation that comes from inside us. As we work on our problems, we cooperate well when we try to cooperate better. Our main responsibility is to escape any self-righteous position; our principal conviction demands that we practice what upgrades rather than what stultifies life. Our judgment of reality requires continuous enrichment; our ideas about what is the right approach need constant revision upward.

Various factors determine that our better human action is difficult to organize in the form of useful techniques. No two of us ever find ourselves in exactly the same place in our society. When attempts are made to put us in similar places, our responses are still different. We neither see the same things, hear the same sounds, have the same feelings nor think the same thoughts. Evidently, most of our principles that we use in order to cope with our human difficulties can only be general. Still, our *Problem-Solving* techniques can be remarkably reliable considering their complexity.

When we are using our complex human techniques, we must employ rough statistical analyses to interpret our preventive and remedial efforts. Our simple correlations are useful as guides, until we can obtain a measure of understanding. But, we are under obligation to persist in doing our best to understand more of our human behavior, so our means for improvement become better and better. Our experiences are exciting while we live experimentally in a reliable Universe, which operates through its mammoth systems of rules.

Hard Work

Our *Problem-Solving* belief makes no provision for our fitting into its program indolently. On the contrary, it demands that we work harder and harder to acquire increasing physical, mental and emotional training for our activities. Next, we must

undergo rigorous discipline in facing our greater responsibilities. When our preventive or remedial work starts, we must struggle harder to keep it going until we get some positive results. We give our greatest disapproval over human degeneration, where progress might be relatively easy. We reserve our greatest praise and commendation for any difficult step in human progress that is made against great odds.

Our hard work on difficulties is exciting devotion and not dull slavery. Real bondage arises from problems that we do not work on; elimination of serfdom comes from dedication to solving more problems; keenest delight appears as a by-product of our making improvements. We prepare for this hard work through learning to solve all kinds of problems in the course of grinding away on them. Then, our application of harder work instills compulsions to overcome difficulties by generating excitement that we cannot resist. Even though crammed with hard work, our lives become increasingly satisfying.

Prevention

Often, we must prevent a difficulty or live with it the rest of our lives. Many of our decisions, like the kind of work that we do, our marriage partner and the number of children that we have, require careful study in advance. In most of these instances, our choice creates a permanence in our mode of living. Considerable imagination must enter into our preference, when we make such permanent selection.

In *Problem-Solving*, we must pay closer attention to the course of events, so we can devote much effort in preventing difficulties. With adequate information, we can determine general trends in what is taking place. Then, we may be able to estimate what might develop into more serious troubles. Once the course of events indicates that we are headed toward an undesirable situation, problem-solvers must assume responsibility for stopping the trend. If we detect that a difficulty is developing rapidly, our strategic action must halt its development as quickly as possible.

When we attempt to prevent a completely resolvable problem from developing, solutions are usually easier and results are more apt to be successful. An ounce of prevention is really worth a pound, or more, of cure. Besides, if we neglect problems as they develop, mental and emotional complications can make them more severe. Whereas, if we start our preventive action quite early in the development of our difficulty, we may

have time to obtain solutions before tensions become great.

Unless we are dedicated to working on difficulties, we are not liable to recognize or become concerned about a problem until it gets severe. Apparently, we must acquire considerable sensitivity and commitment to our belief in coping with these difficulties, before we pay enough attention to them in their early stages. Also, habit and understanding are essential elements of our skill in detecting growing troubles. We learn to notice when situations get a little out-of-line, by adopting the habitual practice of looking for difficulties. We can recognize opportunities to arrest growing disorders better, if we understand what is going on. Thus, prevention is obviously one of the most important strategies of *Problem-Solving*.

Background

Our belief in coping with difficulties has widespread need for more fundamental research into understanding. Our comprehension must expand in every elementary aspect of every conceivable problem. We must probe the Universe from the simplest of living things to the most complicated of social structures. Our studies must investigate our cosmos from the farthest reaches of outer space to the minutest details of atomic nuclei. Our search for extensive background of meaning for what is happening in our Universe is essential to help us build more tools for solving our multitudinous problems.

Quite obviously our belief includes all of science and its physical applications. Physical scientists, dedicated to objective truth, invented many of our Problem-Solving procedures as they struggled with vast numbers of material problems. As a result, science has made extraordinary progress in discovering and understanding fundamental facts of the Universe. We even know about consistent modes of action in outer space. Many new forms of energy are increasingly coming into our comprehension. Physical and chemical processes form enormous segments of fundamental human knowledge. In science we become familiar with numerous universal laws that are basically useful for our work in relieving human troubles.

All of our fundamental principles of life fall into the enclosure of our Problem-Solving belief. We are beginning to grasp how life on earth started and how step-wise evolution proceeded until human beings arrived on earth. Quite a few basic ideas have become available about how we operate physically, mentally and emotionally. Group responses are subject to our

quite diligent research. We finally know why problem-solvers must adopt scientific and expanded laboratory methods to build up our elementary understanding. We have little chance of preventing or relieving many of our difficulties until we understand increasing amounts of this background.

Communication

Our need for improving communication skills requires our concentrated attention. *Problem-Solving* is highly dependent on the nature of the messages that bounce back and forth between ourselves and people receiving our help or helping us. More effective preventive or remedial efforts call for more completely open relationships. Transmission of human thoughts and feelings is not automatic. Others may have special problems, but we may not be able to find out what they are. Warmth and understanding may be in us, but we may not be able to send them forth without developing special bonds. Exchange of sympathetic thoughts and feelings is an art that we must cultivate continuously.

Two-way channels must open-up before human messages can come through clearly. Each end of the communication line must listen carefully and reply with sympathy. Our need to listen can scarcely be emphasized too much, because this process completes the reception of the message that was sent. Whether we are getting complaints or important positive information, we must let incoming signals penetrate. We can nearly always find more in this sound than meets the ear, if we are most alert. Our sending messages also carries considerable obligation, because we do not know our ideas will be received. We must anticipate the poorest welcome and adjust our end of the communication to stimulate the best reception. More friendliness, tolerance and compassion in our response to signals can build up more harmony in our human linkages.

Actual meanings in our communications must be clearer and more accurate, when we are working on our problems. We can really become confused, if our helpful messages are muddled-up. Our meaning also must be more nearly the complete truth, whenever we put out information. Honesty and integrity are sometimes regarded as arbitrary legal requirements to safeguard the rights of human beings. But, in our belief our motive for not lying or cheating is greater than not going to jail. We cannot get our improvements going in an atmosphere of dishonesty. *Problem-Solving* demands greater reality that can only

exist, where we are struggling to make our messages more nearly correct. Our ability to cope with difficulties requires more facts that are more nearly real facts and more impressions that are more nearly the correct impressions.

Our lines of prevention and remedial communication are often fragile and we must not put out statements that break these connections. This requirement means that we must often restrain ourselves from placing others at a disadvantage. Usually we must avoid the simplest type of put-down. At least, we must become aware of discouraging, embarrassing, annoying and inflaming messages and eliminate them. We must maintain more friendly exchanges of ideas, before we can hope to cope with most of our difficulties.

While we are working on preventing and relieving human difficulties our determination to do something constructive about our situation needs to be expressed clearly. We must stand up and be counted, in order to make our enlistment evident. Our communications must leave the impression that we are caring, we are trying to understand and we are going to struggle to make things better. *Problem-Solving* operates strongly through announcements of intentions to bring about improvements and to back up all efforts in this direction.

Incidentals

Our modern biological possibilities for giving us help with our human problems are within the scope of our belief. For example, we do not rule out sophisticated geneticists improving our skills by tampering with our genes, DNA or RNA. One responsibility of medical science is to increase the ability to improve human genes by any possible means. However welcome this objective might be, beneficial treatment of our genes does not seem feasible in the near future. Also, we can scarcely expect much human advancement from such an organic chemical process alone. If and when genetic improvements become possible, they may not change human beliefs at all. Most of our puzzling problems will still be around for us to struggle with. So, even though we have chemically refined genes, we must join to it our belief in coping with difficulties. Greater dedication to improving all human situations will still be necessary to give us excitement and satisfaction. Our more intelligent or more creative human beings would just have more responsibility to work on problems.

Our belief might give reserved consent to voluntary selective

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breeding of human beings. By this process we might develop a hybrid species with genetically superior mentality and emotions. So at first, this hybridization sounds like a promising idea for experiment. After all we do breed horses and cows. But, second thoughts suggest that breeding might be a doubtful source of a superior species. We would have difficult decisions such as who are to be our outstanding parents for our future generations and how do we select them? We would have dangers such as, how would we keep racists from propagating their races preferentially and how would we preserve cultures? We would also have frustrations such as, how would we find out if our experiment was successful and how would we deal with the results?

Better training for all of us to cope with our difficulties seems to be a much more hopeful process than breeding to obtain an advanced species. In fact, cultivating a super strain of human beings needs a much lower priority number than restricting our breeding to control defects. Then, in case some superior generations are born, they may require *Problem-Solving* more than we do now. Our necessity for increase in human responsibility more than keeps pace with our increase in human preventive and remedial talent.

We might welcome the development of a perfectly harmless chemical that would focus our efforts on making human advances. Our biochemists may be missing a chance for a break-through by not working on such an additive for our food. Success here might counteract all of those escape drugs such as alcohol, tobacco smoke, LSD, marijuana and heroin. Still, a closer inspection tells us that our special chemical would be no replacement for our belief in coping with difficulties. We have no substitute for greater training, discipline and experience in our struggle for improvements.

Strangely enough, our bodily well-being is of critical importance in determining the vigor of our preventive and remedial efforts. Advancement in our nutrition offers considerable chance for helping us solve many other problems. When we are working actively on difficulties, our diets require satisfactory amounts of all essential proteins, low levels of saturated fats, microscopic percentages of refined sugar and more than sufficient quantities of vitamins and essential minerals. Our food, if it is well designed for our own bodies, has great potential for improving our physical abilities. Improving our intake of dietary supplements may strengthen our mental capacity, our enthu-

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siasm for work and our creativity. Our being better nourished may even enhance our emotional qualities. But, no matter how well-fed we are, or maybe even before we can be well-fed, we still require continuous devotion to *Problem-Solving*. Good diet and improved skills in relieving human distress often go together and reinforce each other.

Some of our human conditions are improving these days, as we are well aware, while others offer tremendous resistance. Evidence is strong that our progress occurs in these special areas, because we assume increasing responsibility and struggle harder to solve problems. Even where advancement is most promising, we dare not relax our present efforts. Overconfidence can be almost disastrous. Our population-food-energy-water-raw materials-pollution-cooperation dilemmas are in serious crisis. Population is largely out of control; food is poorly distributed; energy is poorly developed; water is wasted; raw materials are disappearing; human cooperation is inadequate. Our troubles threaten us with oblivion, scarcely because progress destined for the future has arrived too soon. Rather, our regression in our baffling areas results from our having neither faced these problems squarely nor having made strong enough effort to solve them. In *Problem-Solving*, we dare not dodge our responsibilities for progress, because human advancement is up to us. We have no other agency for shouldering our burdens of improvement, even when our difficulties are most baffling.

Attitude

Our progressive attitudes in *Problem-Solving* are quite easy to recognize from our actions. When we find regression in a situation, we must promote enrichment; if we uncover deficiencies in the quality of human life, we must do something to get life going upward. Each new difficulty that we discover makes us anxious to get to work supplying greater relief. We never pretend to have the final answers. Our strategy must be to spread facts and demand solutions in sympathetic fashion. Our spirit that we acquire from joining the Universe in action is the determination to advance.

Our enthusiasm about locating difficulties and either preventing or relieving them is the outstanding feature of our belief. We are not working on problems to show how unselfish we are. Our work is fun. Everything in a state of advancement stimulates good humor and deep satisfaction. We cannot help

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enjoying our progressive struggle. Every new action that we take for improvement gives us added stimulation for accomplishment. The joyful spirit of the Universe enters our lives and we are caught up in the tremendous excitement of advancement.

Our minds grasp eagerly for greater understanding as we work on problems. We must learn more and more of life's multitudinous principles, both objective and subjective. We realize that our developing human abilities are just combinations of these boundless rules. Understanding how the Universe works is in itself one of our tremendous objectives. The closer our probing gets to the vast area of how human beings behave—the deeper our search must become.

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With our cosmic endowments, we must assume commensurate responsibility for greater progress. Our improvements must keep accelerating. In *Problem-Solving*, we have no rest for the dedicated, only pressure for greater skill, or effective strategy and greater advance. Positively, firmly and pleasantly we must do our best to cope with our difficulties. Every failure is only temporary and a chance to learn; every success is only one step and a chance to go further. But, we must start right now and carry on with our improvements using great vigor and patience.

CHAPTER 2

BASIC PRINCIPLES ABOUT SOLVING PROBLEMS

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How do we go about practicing our belief in striving for improvements, after dedicating ourselves to Problem-Solving?

We do not have anything either magic or rigid in our methods of solving problems. Rather, each improving process is an exciting game of participating in getting from where we are now to where our situation is better. We must carry out the preventive or remedial work ourselves. But, our action of developing these improvements requires our strategic use of universal principles. Thus, such rational approach provides that our modes of preventing or relieving difficulties may be largely our own. Still, much of the time our effective strategy must follow patterns that human experience has shown to be valuable. Here, we use ideas that we have developed in research on how the Universe works in our material and human world, which is what *Problem-Solving* is all about.

The degree of emergency is certain to shorten the course of our preventive or remedial activities. We may detect our difficulty, decide what needs to be done and do it, all in a fraction of a second. In such cases, we may say that we use our intuition, which may be another name for a very rapid rational process. But, action on most of our problems requires more introspection, deliberation and planning. When we analyze this slower process, we can separate details of how we usually practice our belief. In describing these details, we will make an arbitrary analysis of our usual patterns, admitting that anyone might make a better one.

Persistence, flexibility and experience are basic requirements for Problem-Solving. Where our predictions of difficulties prove

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faulty, we have the obligation to revise our judgments. When our first attempt at relief falls short, we must try again. If one idea for the resolution of our trouble is unsuccessful, we must try another. As more important problems arise, we must transfer our attention to what merits more consideration. Constant practice working on problems is quite indispensable. When we avoid the procedures of our belief for an extended period, we can forget how to get started again. Strategic perseverance not only fits into our general pattern for coping with difficulties but clarifies the unending character of human improvements.

Alert Awareness

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Our life in *Problem-Solving* starts with a tune-up operation. In these adjustments, we develop greater sensitivity to human possibilities and our consciousness becomes more alert to all kinds of human troubles. We observe more clearly; we listen more intently; we feel more deeply. Our minds and emotions must become more analytical in drawing conclusions from what we see, hear and feel. The objective of our growing awareness must be a more complete comprehension of reality in our expanding world.

Any present situation that shows signs of needing improvement must register an alert signal with us. This signal must have its basis in accurate knowledge and honest appraisal of our immediate difficulties. Then, we must bring attention to bear on each opportunity for us to enrich ourselves or our world today. For certain, our lives must become more awakened to what is happening now.

We must also become more aware of how our conditions are changing with the passage of time. If problems show signs of building up in the future, we must perceive them in advance. Our analysis of what is happening must detect any slowing down of human enrichment or using up of human resources. For these deductions, we must collect information that describes how our world is evolving. Any suggestion unearthed that we will need more help in the future must alert us to requirements for greater preventive efforts.

In our awareness, we must not carelessly brush off any type of present or future difficulty. Possibly, our most sensitive tune-up must involve surveying ourselves. At least, we must be careful not to overlook any personal inadequacies in any part of our lives. Also, our acute consciousness must become increasingly broad in scope. Our attention must focus strongly on

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difficulties of our societies, because societies depend largely on us for help. Our mass of human beings creates problems that demand our careful examination. Further, we must be conscious of our need for greater emotional stability and warmer tenderness in our world. Quite clearly, our survival deserves our complete attention. Problem-solvers must observe all of these human perplexities continuously on their scanners.

Intense Curiosity

After we become sensitive to situations that need improvements, we must become searchers for the nature of these difficulties. Many of our serious problems do not thrust themselves upon us. In fact, troubles tend to hide and we must look around quite carefully to discover their identity. This type of curiosity is a valuable asset in *Problem-Solving*. Our hunting and prying may be the only ways to discover what difficulties are imminent and how we can avoid them, as well as what conditions are already weak and how we can cope with them.

Our curiosity about all kinds of action in the Universe gives us a start on understanding how our difficulties arise. This insight supplies important acquaintance with the nature of our troubles. So, we can learn how things go wrong as fast as possible, as the more highly inquisitive learn more rapidly. Our great desire to become acquainted with reality is our great help in exploring the cause of any problem.

We must maintain our inquiring minds, when looking for means of practical prevention or effective solution for any problem. Each idea for relief must arouse wonder about what would happen, if we tried it. We can usually uncover many ideas that might be useful, while we are curiously looking for remedies that are most effective. Thus, we must take keen interest in these possibilities in order to find better ways of handling our difficulties.

Deep Concern

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Problem-solvers must have deep concern about the existence of all serious human difficulties. Our emotions must get strongly involved in our work on remedies, while our feelings register profound regret about these troubles. Then, our accountability becomes stronger as caring develops greater strength. Also, the possibility that we might be helpful becomes more real as a difficulty receives our more solicitous attention. Our caring kindles hope within us, which drives us on to more

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vigorous preventive or remedial action.

Our deep concerns must concentrate on positive rather than negative feelings toward people. Often someone is at fault in causing one of our difficulties. But, as much as possible, we must avoid anger or hatred of these persons because they brought about our trouble. Our strong aversion must focus on unsatisfactory situations and not directly on human beings that create these problems. We are certain to encounter emergencies that are absurd. But in this case, our belief must drive us forward, while we get amusement in dealing with our untrained trouble-makers. We must avoid irritation over resistance to our caring about people and improvements must be totally constructive. Our feelings must be that people are wonderful even when troubles are bad.

Strategic Priorities

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While assessing the many difficulties that attract our attention, we must assign them priority ratings. We do not have time enough to work hard on a large number of human problems simultaneously. Thus, we must plan strategic utilization of our time, develop a measure of urgency for problems and insert critically urgent troubles high up in our priorities. Special troubles need immediate relief; others permit gradual remedies. We may decide to work on a special difficulty first to stimulate dramatic group action, if group action is essential for a reasonable rate of improvement. At least our improving judgment must bring relative importance into better focus, so we can consider this factor in determining what difficulty we must work on next. Our priorities may be of decisive value in determining the general results of our problem-solving.

Better strategy in the utilization of our time has other important facets. Much of our effort on improvements must be devoted to study, as we are largely wasting our time, when we work on disorders that we do not understand. Then, our encounter with considerable resistance may dictate that we wait for a strategic time to work on some difficulties. In some instances, we may decide that certain problems must be left to the remedial efforts of others, while we give background support. When our survey discloses troubles that may arise in the years ahead, we must apply restraining action. This means we must devote a strategic portion of our time helping to prevent these possibilities.

Resolute Responsibility

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Our problem-solving scarcely gets started, until we feel that working on improvements is our personal responsibility. So, our original impetus may require some special introduction or skillful instruction. But, once we feel that excitement of coping with difficulties, our feed-back of accountability becomes terrific.

Just working on human problems instills stronger feelings of obligation for making improvements in ourselves and our societies. We definitely have no pretense; we clearly acquire the imperative mode. Our accountability demands that we prevent and relieve more of our difficulties. We cannot "get away from it all" or concentrate on material ambition. We have enlisted for life, when we become increasingly anxious to press human activities strongly upward.

Our feeling of responsibility arises spontaneously, while we are struggling hard to prevent or relieve difficulties. Once the excitement of experiencing progress catches us, we have caught on to problem-solving. Then, our pleasant sensations drive us on to still better ideas for improvement or to our next important problem. Our drive develops, because in our belief we must continue to find better ways. As long as all human troubles are ours to overcome, our lives acquire the fascination of being part of the Universe in motion.

Increased Understanding

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Throughout our work on problems, we must keep trying to understand more about how our Universe works. Such obligation to develop a background of comprehension creates whole systems of adventures in every branch of science. Our massive searches for greater understanding become important goals in themselves. Thirst for better insight into what is going on is part of the spirit of *Problem-Solving* and knowledge for its own sake can be quite a useful tool. In fact, we must frequently interrupt action on routine difficulties and unearth more fundamental understanding before proceeding. Our perceptions of cosmic action may be of great value, when we least expect such help.

Our increasing understanding of our human problems proceeds best from an expanding background of learning. Purposeful reading and study may be useful in uncovering information that is available in print. Skillful watching and listening may improve our acquaintance with situations that we are trying to

prevent or remedy. Almost always we can find someone to consult, who knows more about our problems than we do. Then, we must take advantage of these opportunities for consultation, while we make every effort to understand our own difficulties. We are the ones who must cope, so the responsibility for comprehension is ours. In fact we may conduct preliminary tests on ourselves in an attempt to discover how our problems developed and how our remedies are proceeding. 22

Most mechanisms for the origins of our massive difficulties are impossible to demonstrate. But, early stages in our understanding may include the formulation of theories. Here, these theoretical ideas may contain some mechanisms about what may have been going on when our problem developed. Then, our tests of mutual relations may be feasible through parallel observations. Our job of course is to correlate conditions and results. Under any circumstances, we must develop better ideas about origins. In our belief, better understanding of how our troubles originated is a vital requirement for progress.

Our predictions about how some possible remedies would provide relief for our difficulties must also improve. Usually our conjectures about solutions to problems are only correlations between action and possible effect. So, we must keep trying for better comprehension of what might happen, when we apply various remedies to our difficulties. Our judgment of what we should try first rests on these insights. Also, we can engineer our efforts more effectively, when we understand our various remedial processes better.

Use of Tools, Materials, Energy and Know-How

Problem-solvers almost invariably need better tools to use in carrying out improvements. In many instances we require special instruments to perform special mechanical operations. The mass and complexity of these machines is enormous and is growing at an astonishing rate. Actually, our need for developing new and useful mechanical tools constitutes one of our continuing objectives. In addition, our mental activities require considerable help from all sorts of instruments. We have an increasing number of computers that can carry out our calculations for us. And, we can expect to supplement our minds more and more with these useful memory and thought extenders. Then, we definitely need artistic tools for expanding our emotions to show more compassion for humanity. Much more development work will hopefully create increasing number of

these "emotion-warmers." We need all of the helpful reinforcing devices that we can dream up in Problem-Solving.

An astonishing number of contributing substances are essential for our operations in coping with difficulties. Here, we must include the important physical materials, such as food, water, clothing and shelter. The list of these things that are useful for increasing our vitality is really quite extensive. Also, our thought processes require many stimulating devices to advance our intellectual vigor. Some of our most helpful items include the books, magazines and newspapers that furnish knowledge of what is going on in our world. Anything that gives us food for thought must be welcomed, when we are busy working on problems. Then, our emotions respond favorably to observations of beautiful objects that we seek out for inspiration. Any spectacular view of nature can give us an uplift in our inner sensibilities. Watching small babies or young children can make our feelings more tender. Our lives have increasing need for substantive experiences, if they are useful in strengthening our efforts to relieve our troubles. 23

All of our efforts at making improvements require energy of various kinds. Our bodies and minds need strength for their activities; our tools need power to do their work. Energy is an obvious requirement for illuminating our operations, so we can see what we are doing. Also, heating, cooling, transporting and communicating use up energy. Now, when we plan for some additional projects, we are obliged to consider carefully the kind of energy that we are going to consume. Any increase in problem-solving usually calls for more capacity for doing work that must be strategically determined.

Along with our other means for providing help, our most valuable resource may be know-how. We may have some training in recognizing that something needs attention, but must develop greater skills in detecting that troubles are getting serious. When a problem arises, we must have ideas about how to discover a remedy, which requires knowledge. After we decide what solution to try, we must know how to carry out the necessary operations. Know-how is not a magic gift, but one of our rewards from our experience working on problems. *We learn how to cope with difficulties by coping with difficulties.* If we stop our struggle for improvements, we can forget our valuable know-how quite shortly.

Dynamic Confidence

Experience striving for our improvements implants greater assurance and self-reliance that has maximum drive and minimum false pride. We feel reasonably certain, without being cocksure, that we can accomplish human improvements. Others have enriched their lives and we know that we can enrich ours. We must believe that, if we all work together, our societies will advance. Such confidence gives us dynamic emotional impetus toward the continuation of our work on problems.

Our trust in progress expands our confidence that our Universe is highly dependable. No conviction is as reassuring to a problem-solver as the faith that our cosmos moves along consistently in its creative action. All of our universal processes follow rational rules. Also, in our belief we can discover an increasing number of these consistent modes of operation. This struggle to learn increases our skill at discovering more rules, which accelerates our human advance.

Powerful features of our confidence as problem-solvers resides in our realization that we ourselves are creative human beings. While we are working on problems, our inventions tumble out thick and fast. We do not create new rules governing how our Universe works. Rather, through still more fascinating processes, which are just part of cosmic activity, we have sudden flashes of insight about our problems. Such vivid imaginings give us new ideas about how we might obtain further improvements *using known rules of the Universe*.

Directed Thought And Meditation

While working on many of our problems, we may do considerable silent rational thinking. In quiet contemplation, we can gather together knowledge of each difficulty and analyze its known features. Our thoughts may help us decide whether our troubles will get worse or better. At least, such calm specific reflection gives us an opportunity to form greater insight into causes and possible preventives or cures. Closer mental association with any difficulty increases the probability of our making an improvement.

General open-minded reflection quickens our original and creative imaginations. Our creativity springs more actively from such directed meditation. While we quietly ponder the general nature of our perplexities, we have better surroundings for bringing unusual ideas to mind. Visions of possibilities may appear more quickly; original proposals may leap into our

minds more rapidly. Our introspection may be our best introduction to a breakthrough.

Group discussion is a useful tool for developing remedial ideas and widening their scope. If our group can focus its discussion on our problems, we can get collective opinions about possible improvements. Friendly rational arguments with others, who have different ideas, are powerful stimulants for our thought and meditation. When we attempt to defend our logic in analyzing a problem, we sharpen our critical faculties. If we avoid hardening our prejudices, sharing judgments about preventives or remedies enables us to learn more about what might relieve our difficulties.

Specific Decision And Commitment

For each problem that we attack, we must select a specific method for trying to make some improvement and this decision must be better than a random choice. First, our selection must appeal to us as being sound and practical. Next, we must believe that human advance will be more probable, if we use this specific method rather than some other. Besides, we must think that our decision will not bring damaging or degenerating side effects. Further, our choice must be what we really want to try. Our whole process of arriving at such a logical proposal is a fascinating experience in exercising judgment.

At our point of decision, we bind ourselves to giving our choice of preventives or remedies a fair trial. This resolution means that we commit ourselves to making our choice a success, unless our results show up defects or a better method becomes available. Such obligation rests strongly on our resolute responsibility for helping to accomplish the maximum number of improvements.

Intelligent Application

As we put our decision on trial to solve a problem, we must get the action started. One essential feature of our procedure is to fit ourselves vigorously into the total improvement process. If our part is to be a major one, we must run our experiment using our own strategems for making our remedy work. Here, we must be the ones to press for results and we must do the supervising. In other instances, we may assume some minor role. Still, we must be as helpful as our secondary part allows.

The way we organize our preventive and remedial activities may be the critical feature in our work on a problem. Plan for

action becomes the pattern of our attack; design of tools and procedures becomes the bulwark for our plans; engineering of the project becomes the force behind the tools and procedures; technique of the operation becomes the consummation of our engineering. Our strategy for execution of our plans for action often determines our results. Here, we usually have more to decide than the who, what and how of our remedial efforts. We must even determine the place for our attempted improvements, because surroundings often have considerable effect on the outcome. Also, ordering of events, so they unify the pattern of improvements, usually provides superior results.

After action starts, our tactical responsibility is to keep our plans unfolding on schedule. Each step in our improvement process may need us to expedite it better. At least, while effects are developing, we must be quite observant of what kind of results we are getting. Attention to the outcome of our efforts is one of the critical parts of intelligent application during work on problems.

Cooperation

One of our most vital elements in any process of problem-solving is the spirit of working together with all involved in the action. The importance of this spirit is evident, as the majority of our difficulties involve two or more people. So, our participating with others in programs for creating improvements is our best chance to enjoy stimulating lives. We have discovered that any preventive or remedial group action on human problems requires warm feelings and genuine sincerity. All contacts with others need to be courteous and sympathetic. Our dedication to making improvements demands this friendly cooperation. We must get wrapped up in our beautiful emotions, so that our helpfulness is inspirational to the whole group.

We must tie together the activities of all participants in our struggle for improvements with a web of communication. Our exchange of information about our cooperative efforts must be free and open. This freedom means that all of those who take part in coping with any one difficulty must know what is going on. We must listen carefully to group messages that are intended for us and we must be quite clear in the messages that we send to the group. Everyone of our participants must feel like they belong to the group and must feel the interaction with each other that builds unity.

Our cooperative action on difficulties requires considerable

dividing up of work on a voluntary basis. We have different types of jobs in almost all struggles with problems. Thus, we must divide up both jobs and responsibilities, while we are working together. The work distribution may require our deciding who is most qualified for each job. But, usually assignments must be filled on the basis of who offers to do them. Then, we always have tasks that no one is anxious to do ordinarily, but must be filled by the most responsible. In problem-solving, drudgery may become so important that it is exciting, particularly while we carry on our joint operations.

Evaluation Tests

After our attempt at an improvement has had reasonable time to show effectiveness, we must run tests to determine our results. Accurate evaluation is an essential part of every experiment. We do not try to solve our problems in the dark. So, our examination must be searching to detect any improvement or lack of improvement. In problem-solving our success or failure can remain out in the open without creating overconfidence or apprehension. Our temporary failure indicates neither complete uselessness nor censurable fault.

Accurate evaluation of progress is usually a relatively confusing process. Setting up our yardstick is not our only perplexity. Our own judgment may be prejudiced. To get around this possibility, we may have outside observers judge our results. Our work on problems must not appear successful just because we are doing the work; our failure must not appear unsuccessful just because someone else was at fault. As we accept critical judgments and make our own reevaluations, we sharpen up the independence of our appraisal abilities. Even our tests of progress require frequent overhauling.

In our tests, the benefits from our working on some problem must not be the only results that we try to measure. In many instances, we must search for undesirable side effects that confuse the picture. Such annoying consequences may not really be experienced, only predicted for the future. Still, our providing a solution for one problem that creates other difficulties raises important questions. Perhaps, a new difficulty that may develop would be more serious than the old one that we were working on. Possibly, a different approach to solving our old problems would produce fewer new troubles and less severe ones. We scarcely dare escalate our troubles. So, our work on improvements requires a critical atmosphere.

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Our analytical approach to judging progress has originated a special factor that we can call the risk-benefit ratio. In determining the risk of certain problem-solving activities, we can enumerate all of the undesirable side effects that might develop. Each of these unwelcome possibilities should be graded as to severity and summed up to give an indication of total hazard. This sum must include as many special considerations as possible, so our comparison of risk to benefit can have meaning. Then, we must gather together the benefits that we have measured in our tests or have estimated to be possible. At this point, we can calculate a value for our risk-benefit ratio. Then, where our risk-benefit ratio turns out to be a small fraction, we can conclude that our efforts have a good chance to develop improvements.

Temporary Satisfaction With Improvements 28

Human progress creates special warm feelings that serve as beautiful accompaniments for our motion upward. Such extra gratification evolves as our improvements develop in any area; such additional pleasure grows more intense as our progress penetrates deeper into our human domain. We get some enjoyment out of learning to run, jump or read with greater skill. When we make progress in speaking, writing, dancing, singing or communicating in general, we get more inspiration as our by-product. Advancing our mental accomplishments brings still stronger reinforcement to our inner selves. Then, while we enliven our personalities and warm up our emotional feelings, profound enrichment unfolds. Also, with our efforts to move our social, political and economic organizations upward we can acquire these deepest satisfactions. Our belief in Problem-Solving responds with fascinating rewards, wherever we apply our efforts strongly.

All of these automatic compensations in our belief must be regarded as temporary. We learn early in our experiences that nostalgia wears thin. We always have more difficulties to work on and each improvement calls for another. So, we are always just starting on the upward way. Our dedication demands that we help create systematic human advances along a broad front.

Encouragement With Failure

We can learn more from one failure, which we overcome, than ten successes that come easily. Initial adoption of our *Problem-Solving* belief is only a starting impulse and not a

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guarantee of achievement. We only reach our deeper and deeper satisfactions when we work for as steady improvement as possible, while we are not discouraged by many defeats. With our belief, we feel no shock from falling short of intended accomplishments. Rather, pronounced encouragement is possible after our failures, through our reasonable expectations plus our vigorous counter attacks. All of our human situations become adventures, each moving along a predominately advancing front. Still, our non-successes will accompany our successes in our irregular line of progress.

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Possibly our most fundamental principle in *Problem-Solving* is the absence of any final state of perfection. Our improvements must tumble out all over the place, but we just do not reach any faultless state. Thus, any failure to achieve a goal can be no more than a temporary setback that provides a tremendous opportunity to learn. Fortunately, our spirit kindles in us a durable feeling of compulsion for progress. With total dedication, we must keep on being part of the upward growth of human beings.

CHAPTER 3

CHANGED GAME PLANS FOR OUR LIVES

What happens to our game plans when we compete largely with self in Problem-Solving and stop being obsessed with beating others? •

While we concentrate on outdoing ourselves, plans for our lives have unique designs that are not totally self-evident. Naturally, we have our normal life stereotypes. We select occupations or professions to fit our interests and abilities. In many instances, we may acquire maximum training in these vocations. Then, our incomes receive adequate consideration, as earnings sufficient to handle our basic needs free us from privation so that we can concentrate our efforts on improvements. But, the uniqueness in our game plans displays itself largely in our self-improvement ambitions, in which we always try to do better than previously. We trade in any urges to achieve either great monetary or social success for an ardent desire to surpass our own previous efforts in solving problems.

General Change In Plans

Our lives become better training grounds for increased cooperation when we work on problems. Thus, we avoid those mad struggles to reach the top by climbing over others. We make common cause with anyone who seeks to improve any human situation and who rejects bitter rivalry. In our case, coalition replaces harsh competition. Thus, many common human objectives come to light, which tie us all together. So, unity develops and contentions subside. In this atmosphere of increasing trust, we work together in the harmony of friendly collaboration.

Participation in innovative activities is the pattern of our

vitality that saves us from static routines. We must not inertly watch from the side lines while others struggle with human difficulties. Our imperative is to get involved in all improvements, rather than to escape from the unpleasantness of the present or the responsibilities for the future. We not only cannot run away, we must go on looking for opportunities to help. In essence, we are always busy trying to improve all human situations and understanding.

Dedication to *Problem-Solving* saves us from the massive search for simply having a good time, although we frequently need recreation. Our deep satisfactions come so automatically from our action on improvements that we do not need to concentrate on entertainment. When we work on difficulties with enthusiasm, pleasure seeks us out. Communication is warmer and more friendly; interaction is closer and more harmonious; identity is clearer and more rewarding. This kind of excitement is enough exhilaration in our lives to more than make up for any lost personal amusement.

Our most significant change in life plans may lie in our being able to achieve the feeling of greater usefulness in our inner lives. After we join *Problem-Solving*, we do not need to make others think that we are important. Our usefulness takes precedence over our reputed importance. In the course of our helpfulness, we bring our judgment into play and make valuable decisions about what improvements to make in our lives. At this point, better organization of action on our difficulties gives us a chance to perform with increased skill. Then, we must be right out in the front line of human progress, trying to do better in every respect. In our belief, we get to be quite useful people, particularly in our own knowledge.

Upper Corner Of Attitude Triangles

Game plans for parts of our lives frequently have two opposite poles, conservative and radical. Conservatives pull backward while resisting change; radicals abandon the present while embracing some glorified picture of the future. This pull between these two forces creates considerable tension in our societies. But, when we dedicate our lives to solving problems, our game plans usually enter the struggle between these opposing forces from a distinctly different direction. Thus, our new attitude on issues creates our point-of-view triangle, which shows up in many human arenas.

Problem-Solving injects this triangular design for our atti-

tudes into several critical encounters. Our dedication to working on problems of education makes us support major departures from both conventionality and looseness of controls in schools. This third point-of-view on human instruction favors teaching partly on a one-to-one basis and often by group discussion led by students. Our educational objectives must also demand that we learn how to work more problems in schools. Then, while we are struggling to improve government and politics, we find ourselves at a higher elevation of cooperation from conservatives and radicals. Our stand on most issues of authority is for more participation in government by a more knowledgeable and understanding public. We must further demand more responsive, responsible and understanding public officials. Again in our arena of economics, problem-solvers operate from a higher altitude than laissez-faire private enterprisers or supporters of government enterprise expansion. We must demand considerable increase in cooperation between industry, consumers and government.

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In problems of human restraint, we depart considerably from controversies between hard-liners and supporters of permissiveness. Some people hold out for tough controls of human behavior; others demand that human restraints be relaxed substantially. But, problem-solvers adopt a position equally far removed from both hard-liners and permissives. We are not interested in either rigidity of domination or softness of allowing us to act according to any indulgent whim. Any strictness in our own conduct is to oppose any action that creates problems; any severity in social punishment is to test out a game plan of having all of us make amends for poor behavior. Our lack of rigidity in our restraints is to encourage more creativity, while we are hard at work coping with difficulties.

Our apparent borrowing from the other two corners of some triangle involving human control may be deceiving. Our strict discipline in struggling to improve human situations may appear to be adopting a rigid arbitrary code. But, actually this training is essential for us as we work on our urgent improvements. We have no imperious design for ourselves and we know that our beating others into some exacting mold does not solve human problems. The purpose for our applying any human controls is to insure more effective working together for progress. Our basic principle for achieving this essential progress is vigorous friendly cooperation.

Our apparent flexibility in applying human controls is also rather misleading. We must always increase our dedication to overcoming all kinds of difficulties to the maximum of our abilities to help. Our helping to work on problems is necessary for transferring all human advance into the realm of our personal responsibility. But, we must not be surprised that our belief gives us amazing leeway in developing solutions. We need to unearth all kinds of new ideas for making improvements. So, our freedom from restraints stimulates maximum accountability and utmost application of self-discipline, rather than license for self-indulgence.

Caught In Good Situations

When we are caught in good situations, any feeling of special self-importance must be outside of our game plans. *Problem-Solving* has no place for arrogance or conceit. Actually, our most baffling opponent, while striving for improvements, is our own feeling of superiority. Even simple complacency of contentment or pride in accomplishment is extremely dangerous for our spirit of coping with difficulties.

In one trap of inflated pride, we might feel great physically. Nevertheless, even vanity about bodily vigor is out of place in our belief. When we are in good health, we cannot complacently maintain that our bodies are in good enough condition. We must learn about whatever physical deficiencies we have and apply improving treatments. Here, our purpose must be to maintain increasingly invigorating programs to strengthen our physical well-being.

Our present day inclination is to be satisfied, or maybe to be a little conceited, about our mental capabilities. After all, perhaps we are pretty smart. Still, as problem-solvers we cannot smugly think that we are clever enough. We must search eagerly to learn new and improved knowledge, as well as to acquire clearer and more useful comprehension. Also, our stimulating efforts must develop more innovative and spontaneous creativity. Certainly, our positive obligation is to keep advancing our mental strength.

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After we develop a measure of warmth in our feelings, pride in our emotions may stultify us to shameful self-satisfaction. But, such egotistical attitude cannot arise, while we are busy working on our problems. Here, we must consider how increasingly effective, instead of how good we are. In our belief, we must keep enriching our emotions and deepening our tenderness

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toward human beings. We are never compassionate enough. Our only emotional situations that can give us deep satisfactions are those in which we show significant rates of improvement in our feelings.

When we achieve success at measuring up to our responsibilities, we may win a prize or receive a commendation. At this point, outside of our belief we might feel that such recognition is our great objective in life. Actually, problem-solving does not exclude prizes or other recognition as positive reinforcements for improvements. But, our belief stresses both hazard and responsibility in such special notices. Personal ambition to do better must direct us toward working harder rather than toward acquiring prestige. What we learn to do during our work on improvements counts more than any reward that we might win. Our internal delight with going upward makes external commendation unnecessary. Special recognition of our success must lead to increased accountability instead of ostentation.

Our society may be relatively advantaged and we may feel like bragging about the fortunate conditions in our country. Still, when we are trying to make things better and any unequal opportunities in our country come to mind, our bragging must stop. Patriotism really has a different meaning in problem-solving. Thus, while we are working on serious difficulties in our affluent society, we are distinctly humble. Our social situations are actually not as great as our flag-wavers and horn-blowers infer. And, our loyalty to country must express itself in greater preventive and remedial efforts rather than statements that are boastful. So much of our advancement is yet to come that we must be in there helping strongly.

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Our greater efforts in solving problems must have far-reaching world objectives. The fact that our society has a higher standard of living than others is definitely a challenge to us for greater international cooperation. In our favorable position, we must help improve conditions over the rest of the world. While working together with others, we must struggle to make world-wide human progress reach higher levels faster.

Trapped In Unfavorable Situations

When trapped in unfavorable situations, we may defend or excuse our poor personal or social position with continuous complaints. Our lives can actually be taken up with these justifications for failure, but not in *Problem-Solving*. In this belief, we can justify our inadequacies only by adopting an

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uncompromising course of remedying our poor conditions. Our struggles to cope with difficulties must continue. We must engage in more vigorous action to carry out our improvements, instead of either supporting failures, making apologies or sitting around criticizing.

Another poor response to finding ourselves in an unfortunate circumstance is to run away as fast as possible. Such reaction must be outside of our belief, as escape is not one of our acceptable options, when we are working on problems. We have strict obligation to stay on the job and struggle to extract ourselves from our difficulties. We can relax our efforts only when our strategy demands that we leave solutions to others who are either more skillful or in more effective positions. In case we assume a minor role, we must provide our significant support and help.

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We frequently encounter treatments or situations from which we might take offense. Someone assumes an attitude that we detest; another makes deprecating remarks about us; still others injure us or our friends purposefully. According to common custom in our violent societies, we must retaliate and get revenge. But, again our game plans change, while we are striving for improvements. Within our belief, we must not be overly angered or insulted by the people making offending acts or remarks. Our negative feelings must concentrate on the unfriendly treatment:

Part of our independence of spirit originates, because our expectation of total respect from others is on a relatively low level. As long as we are busy making our improvements, we do not either demand the admiration or fear the hatred of others. At the same time, we must keep increasing our respect for people irrespective of their beliefs. Our positive feelings, while coping with all difficulties gives us the exhilaration that satisfies our lives.

Another part of our self control in working on problems arises, because we are dealing with unpleasant situations and want results. So, we actually have no incentive to launch any aggressive counter attack. We know that, by retaliating, we usually make our work on problems quite difficult. Our strategy may be to let insulters and attackers know that we do not like their unpleasant treatment. But, we have a strong imperative in *Problem-Solving* to set up conditions for reconciliation, so we can proceed to make our situation better.

Our Greatest Adventures

Vast numbers of us have had some of the greatest adventures in the past, simply by dedicating our lives to working on problems. Historians tend to emphasize the spectacular or the adventures that have made pronounced impact on human progress. As examples, overland foot travel, caravan journeys, sailing across oceans, machine travel on land and airplane flying through the air have been given special note. We always like to affirm the importance of exploration that resulted in great discoveries. Language development and the design of means for communication require special recognition. Then, extraordinary expressions of beautiful emotions and heroic acts must be appreciated. Still, many ordinary people living commonplace lives may have lived with as much excitement and stimulation as historical characters. All of those innovators, developers and teachers must have had their stimulation. We can read between the lines of history and learn of these human beings who have been concerned about difficulties and have become actively involved in improvements. Then, we can begin to realize how large has been the mass of people who have achieved these great satisfactions.

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Right now in our ordinary daily lives, some of our greatest adventures are available for each of us who struggles to make self and society better. Making great inventions or climbing very high mountains might seem like the only important adventures. Our astronauts that walked on the moon may feel like they had the outstanding experiences of our age. We might dream of settling in a world out in space as the way to get our greatest thrill. But, our modern era has really only increased the strength of *Problem-Solving*. We all have our multitudinous difficulties that demand our attention and we cannot get the full stimulation for our lives without a powerful struggle to deal with them. Then, our lives can become more daring than those of our most reckless adventurers, when we really get strongly involved in improvements.

CHAPTER 4

DETECTION OF DIRECTION FOR HUMAN ADVANCE

How can we tell which way is better, when we have so many ways to go, both inside and outside of Problem-Solving? 37

Some of our everyday problems simply involve getting our routines working, or working on time or working more efficiently. However, indicators for most of our important human advances are seldom that clear-cut. We really can become puzzled as to which way is better. Still, we must strive to keep the richness of our lives and the vitality of our societies going upward according to some reasonable criterion. Just doing this differently does not satisfy the essential requirements of our belief.

Most of us want to live richer, fuller and better lives, if we can determine which route to take. But, all of these terms have different meanings for different human beings. Without having a critical belief, we may think that our ideas are "better" than anyone else's, just because they are ours. However, such uncritical judgment can scarcely be valid in problem-solving. Then, before we carry out a trial of our remedy, we may claim to know exactly what is wrong and how to correct it for certain. Often such exuberance over our ideas is the result of ignorance and inadequate discipline.

Our confusion over what might be "better" arises largely from our considerable disagreement over human values. Fortunately, direction for advance is easier for problem-solvers to detect than those who are not interested in participating in progress. Even so, we must constantly improve our insight into direction that leads to advance. We have no automatic checkout device to point out our upward ways with accuracy. Our judgment needs many guidelines that are in a constant state of being

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revised. Nevertheless, we have sufficient useful criteria to aid our judgment, so we cannot justify bypassing any problem. We can make clear decisions about many improving courses of action right now.

Purposes, Plans and Procedures

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While we are passing judgment on which-way-is-better, we must evaluate at least three parts of each improvement project. These divisions must come under close scrutiny, because we need to aim at elevating such directives in order to make more progress. We can almost certainly make advances by improving our purposes in life. In fact, better goals may be decisive in determining that we are going upward. Then, engineering of our remedial plans has strategic importance in determining if we are making improvements. We can always create better designs for action by developing more logical programs and systems. Also, more effective procedures may be essential for any human advance. We can scarcely show improvements without friendly communication; we can hardly go upward with violence or disorder. All three of these work components are valuable in guiding our judgment as to which way is the direction upward.

We may be inundated with calls for help from organizations and we must decide if we are going to support them on the basis of improvements that we think they might accomplish. So, we must study their purposes and determine if we approve of these objectives. But, many rather useless organizations may claim to work for the most elevating goals. Consequently, we must transfer our attention to their plans and appraise their programs for accomplishing their objectives. Even here, we may agree with the general ways in which some organizations outline their actions. They may put forward proposals that we can accept. Still, we must decide if we like their procedures, our responsibility is to see that our group uses what we think are positive, friendly, informative and cooperative means for reaching our goals. We will be more certain of going upward, if we work through more effective organizations that do more worthwhile things using better methods.

Enrichment Of Human Life

We must be going upward, if our actions enrich our lives right down inside of us. This inner strength may appear in the form of greater deep-seated peace. Also, our improved vitality may include bodies that we try to keep more healthy, minds that we

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fill with more understanding and emotions that we make warmer. When we build up the quality of such interior forces, we magnify identity and personality. As we expand our deeper satisfactions, our lives become greater experiences of unity with the Universe in action.

Our attitudes that have outward expressions tell part of the story of our advance. We must be improving, if we become more merciful and forgiving. Our lives must be growing richer, when we develop more friendly dispositions. Any increase in our honesty and sincerity definitely suggests that we are making progress. As we become more generous, life grows more rewarding and feelings become more satisfying. Any improved treatment of others can serve as useful means for determining if we are doing better.

Enrichment of our lives may require prevention or elimination of much that degrades our personal behavior. We must be advancing, if we can overcome more of our enemies that are within us. We must show signs of improvement, when we get rid of our worries and irritations. Where our fears and hatreds disappear, we must admit that our lives are reaching a higher level. If we can remove any acts of cruelty from our behavior, our feelings must become more refined. Our simply avoiding hypocrisy can give our situations a lift. As we subdue more diseases of body, mind and emotions, we must be on that exhilarating road upward.

More cohesiveness in our human relationships is a measure of enrichment that must indicate improvement. Where more of us are working together for worthwhile objectives, life must be going upward. Our excitement of feeling that we are more useful strongly contributes to an increase in the quality of our lives. If we are part of a growing unity and solidarity in our families, advancement must be real. Where our overall activities create greater harmony and mutual benefit in our community, we must be going upward together. Expanded cooperation, in our country and world wide, is significant evidence of human advance.

More Uniform Justice

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If our attempts at working problems contribute to giving all of us basic human rights that are nearly identical, we must be making improvements. All of us have the right to be born where we are wanted and are lovingly received. This start in life is our first chance for fair play. Uniform justice demands that we be

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given maximum training that will fit all of us for active participation in life. When we are on the upward way, we cannot neglect making all people feel accepted. In addition, we need improvement in impartiality for various kinds of treatment, such as protection, privacy, information, understanding and mobility, if justice is actually advancing.

Progress must be real, if each of us is obtaining closer to our share of the power in our society. We all need to feel that we control our destinies to an increasing degree. Thus, where everyone has more nearly equal influence in our work, our conditions must be getting better. Such equality calls for expansions in our basic freedoms of speech, assembly, press, belief and pleasant emotions. Democracy can certainly use an increase in the equality of our influence. Then, dividing up power will always advance the cause of human liberation.

Where more of us measure up more to our responsibilities to help improve our societies, we can do more to promote human rights. We can make progress toward greater justice, when we are able to discover more about what is going on about us. Then, we must speak up and express our opinions on our situations. If more of us engage in political activities and vote at the polls, we might expect that our societies will reach a higher level. As we keep better acquainted with the course of events and bring more pressure to bear that demands strategic action by government, our results have a chance of being more progressive. Widespread responsibility is an essential element in our improvements.

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Justice has further demands on us to struggle against oppression and neglect of people, in order to keep us on a progressive path. When we eliminate tyranny, our pathway is upward. As human ignorance diminishes, life is enhanced. Our progress certainly speeds up, if we decrease poverty or relieve starvation. When any action that we initiate lessens the incidence of crime or accomplishes the rehabilitation of more criminals, we can feel invigoration in our communities. Any strengthening of equal rights requires our conquering stagnation. We cannot advance while sitting around doing nothing about our problems of fairness to people.

More Nearly Equal Opportunities

Our equal opportunity avenue upward demands that we provide a more substantial amount of training and education for everyone. Our chances for satisfying lives are highly dependent

on the kind and amount of preparation that we have to enter the job market and to deal with difficulties. So, when our efforts result in a higher per cent of us having reasonable training for useful work, we have opened the door to progress.

Before we have a favorable chance to fit into our society and its economy, we must have work openings available for us. When we cannot find jobs that really challenge us, our positions may seem substandard. If our activities create more jobs in which useful work is done, we may contribute considerably to the goal of equal opportunities. Any support for the expansion of industry or the growth of useful services is an indication of a strategic move upward.

Our obtaining better chances to contribute to society requires an increasing amount of friendly human interaction. Where fewer people are forced out of jobs, our opportunity situation must be improving. If our society allows less discrimination against sex or minorities, we are headed toward a better state of human affairs. Any improvement that occurs in the equality of treatment in the economic area, so we have fairer chances in life, points a way toward human advancement.

Greater World Cooperation

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When feelings between countries and inside of all countries are growing more peaceful, we must conclude that progress is real. At least, improving harmony indicates that we have an increasing understanding of all people and their cultures. If our attitudes create greater mutual trust among different nations having different races and backgrounds, we can feel peace developing strength. This buildup of world harmony may be one of our best indicators of human improvement.

More interaction between countries on the world scene is essential to build greater cooperation. Nations must have the experience of working together before our peaceful attitudes develop strength. Expanding world trade offers some of our best chances for joint operations. When we have more nearly reciprocal exchange of goods and services, we gain greater appreciation for world interaction. Then, mutual help during crises is a remarkable way to create greater world harmony. Actions between countries always speak louder than words.

Lessening of our animosities is essential for improving unity and harmony. If we can decrease hostilities between nations, our actions make an important contribution to world cooperation. All of those rumors of wars develop great international

frustrations. Then, our preparations for wars frequently make working together quite difficult. If we lessen the feeling that we must launch a military conflict, the minute an enemy threatens our national interest, our chances for world cooperation leap upward.

Increasing Problem-Solving Skills 42

We are on the road to improvement, if we grow emotionally more sensitive to human distress. As our empathy develops keenness, we can recognize weaker distress signals and can feel stirred up more by difficulties. When human misfortunes are easier for us to recognize, we have strengthened our possibilities for progress. Any increase in our ability to detect situations that need to be improved gives us a start on making life better.

Any strengthening of our curiosity about human conditions may point out ways for invigoration. Greater inquisitiveness usually gives us greater skill at detecting problems. Also, new perceptions about what might be wrong usually requires the research spirit. Thus, our start toward improvements is frequently dependent on our developing more inquiring minds.

Our progress becomes more of a reality if our actions make us care more about human enrichment. Our feeling a greater challenge to relieve human difficulties is a powerful indicator of advancement. Our deeper concerns create a beautiful accompaniment to our doing better.

When more strategic priorities come to light, we increase our abilities to make improvements. More meaningful order of importance for our problems builds efficiency and effectiveness. We must work on our difficulties according to their order of importance to reach greater overall competence. Thus, when we are able to do a better job of arranging our difficulties in terms of urgency, we are making progress.

If our actions build greater human responsibility, we must be contributing to the growth of our possibilities. One of our fundamental principles of life equates progressive action with responsibility. We are not liable to do much that is constructive, unless we feel that human advance is partly up to us. As our responsibility expands, we are definitely increasing our chances of doing better.

We are elevating our human situation, while our understanding of difficulties is improving. Learning new principles about how the Universe works is quite essential for significant progress. Thus, simple expansion of our reservoir of comprehen-

sion indicates that we are well on the upward way. Our trying to produce improvements using what we hope to be reliable principles, and then correcting them from our results, helps our human ascent greatly.

Any step that we take, which increases our confidence and determination to come to grips with human dilemmas, means improvement. When we bolster our resolute assault on difficulties, this firmness reinforces us for further headway. Where we apply more steady resolutions to overcome our perplexities, we usually find an upward way.

All actions that give us more experience overcoming difficulties point out ways to human progress. Competence in corrective skills is a need of desperate magnitude. We must develop more know-how and decision making abilities, which come from experience, as rapidly as possible. Our coming to grips with more problems increases our chances of going upward and makes us more accurate evaluators of progress. Thus, we must be going in a better path, when we experience more years of working on problems. Our increased ability to tell direction for human advance has close relationship with the length of time that we struggle for improvements.

More Useful Means For Improvements 43

Our development of more effective means for applying preventives and remedies is an indication of a step upward. Critical inspection of our *means* for applying preventives and remedies often enables us to determine which way we are going. We largely determine whether our way is progressive or regressive by *how* we try to solve a problem. Our efforts becoming more beautifully effective indicates up; our attempts being more bitterly ineffective points down. As we well know, such standard of judgment about progress applies to both ourselves and our societies.

Most human difficulties require strategic, calm and positive procedures rather than tough, panicky and negative ones. Tyrants have been trying unsuccessfully to solve problems by chopping-heads-off for millenia. We are still trying unsuccessfully to decrease crime by using more severe punishment. As another example, western societies have been ineffective in fighting communism and its totalitarianism with toughness and war. Our methods of response to this confrontation tend to suggest that we are using the ineffective approach. Light that shines through method and reveals spirit underneath indicates

that most difficulties are immune to relief by harshness. Human life is on earth for an indefinite stay and human problems will always be with us. Thus, for each difficulty our means become our end and our remedial procedure largely determines whether or not we advance.

Human progress seems to require decided emphasis on tenderness in our work on difficulties. Our most important determinant for measuring human advance may be increasing warmth and depth of feelings. In most instances, more friendly and sympathetic acts are the only ones that can lessen the severity of our troubles. More compassionate love often accomplishes near miracles, because the Universe works that way. Our more beautiful feelings create a more effective environment for progress.

Unaffected self-sacrifice is a potent practice for making improvements and is a clear mark of advancement. Giving part of ourselves can be our best gift. Still, our correction of troubles scarcely allows self-righteous attitudes. We must be helpful without being meddlesome; we must be sincere without being thoughtless. Our broadened sympathy and increased humility must be natural as well as real. Spontaneous helpfulness is a powerful indicator of a well-directed act upward.

An atmosphere of good humor may be necessary for many improvements to develop. Our building a friendly, amusing environment is usually a good upward road marker. We can do without clowns that simply disrupt. At the same time, we must learn to appreciate the ludicrous side of some efforts on problems. Excessive seriousness can disrupt progress, while friendliness that values comedy in our situations often accomplishes wonders. We can really enjoy ourselves, when we are busy trying to relieve difficulties in an atmosphere of merriment. The degree to which such enjoyment shows up can be a useful sign of how well we are directing our remedial efforts.

Lengthened Span Of Useful Living

We invigorate our purpose and outlook in the Universe by overcoming difficulties that threaten our durability. While we are lengthening our lives, we are making progress. As societies have longer periods in which they function well, our advance is genuine. If human beings continue to act like our species is worth saving, some improvement must be occurring. Progress definitely enhances our chances of surviving our problems and improving our lasting qualities must mean progress.

As individuals we must improve our physical, mental and emotional health and safety just to prolong our usefulness. At best, we have short useful periods during our lives. Then, when we are in poor health or disabled, our productive years are still shorter. If we are useless after retirement, we can become real encumbrances to society. Also, our permanence and usefulness call for a steady expansion in tenderness. Thus, one mark of an upward way is for our efforts to prevent sickness, injury and degeneration of human beings over a longer span of years.

The direction of our efforts must point to something better, as we assist technology in cleaning up our environment. While we are battling filth, our lives are not as long as they might be and are not very pleasant. Any decrease in air pollution, or lessening of contaminants in our water or preservation of productivity in soils must lift us to higher levels of living. We are certainly advancing as we recycle more waste and conserve more natural resources.

Our achieving more useful education is a sign of progress, largely because we must understand more to survive longer. If we help make learning universal, we can be assured that we will travel the upward way further. Where the quality of our education improves our abilities to relieve difficulties more and more, our advancement becomes more assured. Providing these opportunities for us to become increasingly skilled in working problems supplies a desperate human need.

Controlling our human population on earth by compassionate means is important for societies to make progress for a long time.

Our human relationships have extreme need for longer periods of compassion in order to be durable; our feelings must create greater world-wide friendliness for long-time human survival. We are ascending the scale of values, when our tender emotions give birth to world peace that continues to get more peaceful.

Improvements Must Pass The Looking-Backward Test

We need a final examination for progress in retrospect, because our backward glance makes any advance clearer. In this test, we use a common scheme for telling whether we are going up or down hill, when we are driving in the mountains. From our mountain vehicles, we look backward at the road and this view gives us a clear answer to our question of ascent or descent. In our problem-solving realm, when we want to determine if we

are going up or down the improvement ladder, we look backward in time. Here, our examination must override the fantasy of "the good old days." So, we investigate our practices that we hope are making improvements quite critically. If our new proposals allow many of the old unjust, degenerating and inhumane acts, which disgraced our past, progress is slow or unreal. 46

CHAPTER 5

AVOIDING SOME TRAPS FOR HUMAN RESOURCES

Are there negative means to get an appreciation for the relative strength and usefulness of our belief in Problem-Solving?

The essence of *Problem-Solving* comes into better focus with some disclosure of how our working on difficulties avoids pitfalls in other faiths. Our belief discards numerous useless religious notions, while it provides nearly universal usefulness. Our convictions compel us to work on all difficulties, including those that other weaker resources overlook. While it demands much disciplined effort from us, our belief is remarkably complete in vitality of inspiration for progress.

**Demands Improvement And
No Protection Of Structure**

Other human resources usually contain rigid bodies of ideas to be accepted as a part of member's obligations. In contrast, Problem-Solving creates an elaborate flourish of new ideas. We demand better knowledge, more useful understanding and more effective inventions to meet our unending requirements for improvement. Our expanding reservoir of new ideas must relate to what has happened, what are our present dilemmas and what improvements we need to make either promptly or slowly. Our primary obligation is to get our progress going, no matter what happens to the structure of our society or even our belief. 47

Loyalty to various beliefs is frequently expressed by recitation of creeds or pledges of allegiance to some structure. But, dedication to *Problem-Solving* is not evidenced by any such expression of devotion. In fact, our loyalty to our belief is shown only by participation in our own improvements and the

upward motion of our societies. Our fidelity cannot be judged from public statements. We must display our faithfulness by increasing our sensitivity to human need and dedicating ourselves to greater advancement.

Relies More On Rules Of The Universe Than Human Laws

Laws of our societies prescribe certain rules about how we must act, or not act, to avoid punishment. Whereas, rules of the Universe describe principles indicating how we must act, or not act, to accomplish our broad spectrum of human improvements. In Problem-Solving, we cooperate with laws of society that demand certain behavior to insure basic human collaboration. We acknowledge need for such framework of legal justice. But, our work on problems really is seldom possible in a static code of human behavior. We need those cosmic rules and we frequently require special judgements to obtain our most valuable solutions. In fact, our laws of society often require adjustment to bring them closer to rules of the Universe. Such adjustment is one reason why we must learn more about how the Universe works in our physical, mental and emotional areas. These cosmic rules have ultimate value in our struggle for improvements and we must learn how to use them more effectively.

Many of our human beliefs prescribe extensively what we shall and shall not do. If we do not do certain things, we commit sins of neglect; if we do certain other things, we commit evil deeds. These rigid prescriptions frequently have some utility in building human cooperation. Usually their weakness resides in their futility and lack of relevance. Thus, problem-solvers must regard rules that originate in many human beliefs quite critically. We must be quite flexible in changing or retaining them according to inadequacy or usefulness. Here, our actions really require increasing understanding of how the Universe works. After we receive dedication and training, we rely on our advancing know-how to achieve progress in human cooperation.

Leaves-Out The Miraculous

In spite of exposure to our technological advancement, many of us still trust miraculous cures. So, magic is a prominent element in many of our faiths. Nevertheless, problem-solving leaves all of these supernatural approaches out of consideration. Our belief offers guidance that is strictly according to rules of

the Universe. We do not count on some mystical divine intervention to carry out any operation to improve our situation. Sorcerers are not available to provide any magic touch. We cannot gear our actions to positions of planets or stars with any hope of gaining advantageous effects. We must have carefully evaluated rational experience with our problems, before we can be effective in achieving most improvements.

Experience has revealed that supernatural beliefs are quite useless in attaining progress, compared to *Problem-Solving*. Before our advances get very far, we need all sorts of increasingly rational feelings and perceptions. In particular, we must have more reasonable and spontaneous compassion, before we can make much improvement in the tenderness of our human feelings. Our insights must cover tested understanding of physical relationships, learning processes, emotional reactions and group behavior. We need this comprehension of reality before we develop skills in relieving difficulties. Then, our active search for better discernment makes its penetration reach us continuously. Our increasing understanding of how the Universe operates is our indispensable contact with the Infinite.

Counts Little On Ritual

Most beliefs set up rituals that tend to divert our attention away from efforts toward advancement. Thus, when we are struggling with our problems, we seldom adopt a highly formal procedure. Actually, we dare not allow repetition of statements or procedures to become the center of our stage. Confusion that results from our accents on formalism may be incompatible with our concentration on making progress. Effective action on our difficulties requires substance rather than special external appearance.

Symbolism is useful in problem-solving only when it contributes to communication. We may want to develop art or representations that are useful in exciting responses, which are valuable in our work on difficulties. But, we must rate the importance of responses much higher than symbols. Increased participation in action that brings about improvements carries better messages than repeated signs or emblems. Our actions that help solve problems do not need any symbolic substitutes.

Has Unrestricted Enrollment

While most religions allow us to join as converts, they usually subject us to rites and ceremonies prior to membership. Joining

some beliefs may even involve our taking special doctrinal training courses. But, such preliminaries are not necessary for joining *Problem-Solving*. Our belief excludes none who makes any voluntary human improvement and welcomes all of us the instant we dedicate ourselves to coping with difficulties. Though we join in working on improvements by volunteering without rite or ceremony, we are certain to become better members through "on the job training."

Even though our belief has no exclusion from membership, our apparent ease of enrollment may be misleading. If we make up our minds to improve human situations, we have joined. The minute that we help prevent or relieve difficulties such as: armed conflict, urban blight, government tyranny, population explosion, environmental pollution and intolerable race relations, we are members in good standing. But, immediately our membership fee is alertness, awareness, commitment and involvement. We must assume significant responsibility for study, planning and action on problems. Our coping with difficulties is a strict discipline and an exacting dedication.

Prefers Conversion Through Response to Questions ⁵⁰

Subtle differences exist in the ways different beliefs try to accomplish conversion. Most of our human resources resort to strong encouragement for us to join, while they have fine points of distinction as to how our conversion must take place. Still, urgings of many beliefs are simply to join now and be saved for eternal life. Also, we are almost always subject to pleas for passive acceptance of some special dogmas. In contrast to this type of persuasion, Problem-Solving takes a different course in arousing the interest of non-believers. We largely try to convince others of the excitement in struggling for improvements by challenging them to live now under their own guidelines.

Substantial numbers of beliefs warn us that something unfortunate will happen to us if we do not join them. In fact, attempts are made to frighten us into joining their ranks. But, when we present the case for our belief to others, we dare not promote apprehension, even where some might be justified. We should inquire about who is going to do something to improve our situations, if we do not get into the act. Our Universe is in a mammoth state of motion and we should ask others if they do not want to be part of this remarkable activity.

Our belief seems to attract converts most readily through responses to many kinds of questions. We can sometimes ask, if

certain personal situations are not inadequate and in need of enrichment. Our questions might probe whether or not we have better possibilities for our societies. We might challenge others to analyze emotional difficulties and come up with reasonable suggestions for humanity. Posing problems to those who might be somewhat interested in making improvements seems to be our best method of stimulating expanding dedication.

Has No Preferred Status ⁵¹

Some human resources characterize certain of their members as having particularly high rank. In these upper echelons, we find the priests, those in close touch with the infinite, the true believers, the saved, the ascetic, the experts, the gentlemen and the geniuses. In distinction to this preferred status, problem-solving acknowledges no eminence for any person or group. Our brilliant are not necessarily better or less able to make progress than our poorly endowed. Male is not more able or less able than female to accomplish an advancement; one race is not superior or inferior to another in possible rate of growth in performance. We give people greater responsibility only when we need consultants with greater experience and special skills in coping with difficulties.

This absence of special rank arises from our competing largely with self. Also, our self confidence and personal satisfactions result from our speed of advancement and our society's rate of improvement with our help. Naturally, our superior skill and greater absolute accomplishments may advance our position of leadership in our group. Then, our special reward for those of us, who either reach a condition of greater ability or acquire greater experience solving problems is more responsibility rather than preferred status.

Has No Compartments

Various other faiths teach us brotherhood up to the time our business deals need shady maneuvers or our chances come up to acquire special influence. At this time, these beliefs give us a vacation from ethics, while we achieve personal gain. Here, we are allowed a "greater profit" motive, without regard for the social results. We might even develop an "I must win" ambition in search of domination to guide our behavior. Of course, our vacations are for special occasions, while we make money with little scruples or reach heights with little accountability. Quite the contrary to such guidance, in Problem-Solving we cannot

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take a holiday from improvements. Nothing questionable is allowed for our financial reward or greater prestige. Our dedication means playing square to a greater degree with human beings all of the time and everywhere.

Some beliefs have compartments in which they do not operate, which may be either taken by consent or built-in to their structures. In fact, many human resources have trouble eliminating blind spots that result from neglect or escape. But, in Problem-Solving our involvement in improvements is totally unconstrained. Our built-in objectives do not allow us any limitation to either areas or occasions for application of our belief. Our improvements must run the gamut. We must search earnestly to eliminate any blind spots in our attention to problems and work on every difficulty that comes to light. 52

Certain religions have shown unwise political ambitions that resulted in separation of church and state in many countries. Such enforced separation has removed large segments of our lives from the influence of warmer emotions. Frequently, our countries act on principles that are quite different from those in the doctrines for our private lives. However, no such restricted areas exist for problem-solvers. We do not have any section of our lives where our belief does not apply. Without letup, we must work strongly to improve our country methodically and our world totally.

When international differences arise, our uncritical loyalty to country often takes over our lives from any peace-time belief. In our confrontations, brotherhood, forgiveness and compassion may disappear from our feelings. When we face an enemy on the battlefield, we forget any admonition not to kill. After all, the enemy is there to kill us. But even in this confusion, Problem-Solving does not recognize any such compartment, where we can cease our improving efforts. Our compassion knows no enemies; our intense dislike may focus on what some people do, but never on the people.

Does Not Condone Any Discrimination

Some resources that prescribe proper human behavior seem to justify discrimination in who is treated justly and decently. Members of such faiths often try to solve their problems at the expense of non-members. But, in *Problem-Solving* we cannot give preferred treatment to anyone on account of sex, race, age, or attributes not related to special abilities. We cannot justify

such discrimination of any people by any method. Also, non-members are just exciting problems that challenge our instructional skills. Our efforts may focus on attempts to help skeptics, because confusion and doubt in other beliefs may be our best openings for showing the strength of making improvements.

Many religions excuse violent retaliation toward those who have other beliefs. Such vengefulness has led to bloody religious wars, some of which smolder or break out today. Confrontations between Israeli and Arab threatens to light a fuse which might blow up our world. Catholic and Protestant engage in violent feudal pastimes in Ireland, to the great confusion of Christianity. As a sharp contrast, such departures from decent treatment are not possible in Problem-Solving. Here, we must realize that difficulties of one person or one group are essentially as important as those of others. Our concerns demand reconciliation between people instead of confrontation. Our peace is more than a cliché; it is more than a temporary truce under our specifications; it is a peace in motion that gets more peaceful with increasing friendly cooperation between nations.

Develops No Excessive Pride Or Offensive Hypocrisy 53

Many human institutions, designed supposedly to relieve our troubles, tend to breed excessive pride and offensive hypocrisy. Believers in these "true doctrines" are apt to think that we have all of the answers." Such mystic faiths may contain ideas about how we accomplish progress by some special magic. In an entirely different format, Problem-Solving allows no such worship. Our contention must be that progress requires hard work under conditions of increasing involvement. We must realize that we are our own worst enemies. Our belief demands modesty along with alertness for additional knowledge and understanding about how the Universe works. Our realization that much-to-learn remains just beyond our grasp keeps us humble. Seeing so many chances for progress escape us removes the last vestige of conceit.

Sudden discovery of valuable fundamental principles or successful application of some universal rule makes us jubilant. However, such jubilation is not in the spirit of "look how brilliant we are." Rather, our exclamations over each important discovery might be "great! let's test this development carefully." When beneficial results are clear, we must respond with "show me the next problem." Our tremendous delight centers

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in deepest awe over future possibilities for our species. Neither we, nor our societies that become dedicated to our belief, dare scramble up on pedestals for others to worship.

No One Is Put-Down

Many who subscribe to various religious doctrines scoff at any other faith as worthless superstition. Our vague disparaging words, "heathen," "pagan" and "idolator," have served to mock people of other beliefs for centuries. In contrast, problem-solvers do not put-down any human beings or human beliefs, even when we point out our position of striking disagreement. We seldom allow disrespect of other faiths, even when we discard their ideas quite definitely. Human beliefs, which do not help us overcome human difficulties are just among our more serious problems.

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Adoption of our belief in coping with difficulties may take place at different rates in different backgrounds and cultures. We must recognize that others have different needs and different amounts of understanding of human problems. To help level out human efforts, our obligations include promoting all branches of science and more experience in overcoming human distresses. We fulfill this responsibility, instead of ridiculing other faiths. In our quest for understanding without limitations, we may adopt ideas that have value from other beliefs. We simply subject all tentative human principles to careful tests and discard those that are not useful, without putting anyone down.

Provides Automatic Relief From Tensions

A large number of religions tend to create tensions that shorten our useful lives by setting-up rigidity. In these faiths, most of our acts are prescribed for us. Still, our lives were meant to be in motion *physically, mentally* and *emotionally*. Thus, anything that thwarts our inventive instincts, physical needs or deepest satisfactions is liable to make us morose, irritable or even pugnacious. So, the principal way that we can decrease tensions is to keep our bodies, minds and emotions quite active. For this reason, our belief in working on problems serves as a powerful preventive for psychological stress. Any internal unrest can scarcely build up while we are struggling to cope with difficulties.

Some human beliefs have developed frustrations for us, even though we invented them to escape our tensions. When our lives become highly conforming to a mold, we often adopt either

habitual indulgences, emphasis on endowments or search for prestige to get away from inflexibility. But, this escape process has highly debilitating effects. What we really need is involvement that makes life exciting. Thus Problem-Solving saves us from the weakness of our least useful faiths through its automatic relief from tensions.

Demands Reasonable Expectations

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Doctrines of many world religions glorify absolute perfection. In these faiths, our failure to reach this absolute perfection on earth simply postpones such faultless state to some hereafter. As all we need to do is to declare ourselves as believers, in order to get into our fanciful heaven, such doctrines discourage our remedial efforts right now. Our main obligations seem to be accepting the faith and getting others to join. Definitely we have contrasting ideas in *Problem-Solving*, which demands reasonable expectations along with our vigorous involvement. While trying to prevent or relieve our troubles, we have confidence in some progress without anticipation of startlingly good results. Excitement and pleasure come from our everyday improvement efforts and from resulting movement upward, however slight. Our heaven is right now, right where we are, while coping with difficulties and only expecting detectable improvements.

Our satisfactions that we get automatically from moderate advance are sources of great strength. Also, our rejection of the idea that any problem, no matter how well remedied, is permanently solved gives us an uncommonly progressive spirit. Our self-assurance increases further, because we never underestimate the complexity of our difficulties. We make full provision for cases in which troubles seem to be eliminated and then break out again. Here, better situations are always possible through our own stronger preventive or remedial efforts. Then what is more important, still greater improvements are quite feasible while cooperating better with others.

Provides Additional Thankfulness

Many human beliefs more or less confine our expressions of thanks to those who are responsible for our own good fortunes. In these faiths, we must be polite and acknowledge our appreciation of what others give us or do for us. But, often we limit our sense of gratitude to those to whom we feel obligated. Thus, we may return a kind gift or a friendly service. But, our

acts are liable to be made from a sense of duty or from a need to repay an indebtedness. We may even develop ceremonies to express our gratitude formally.

As a subtle but important difference, our belief in coping with difficulties adds a still more attractive feature to our feelings of thankfulness. For certain, we strongly appreciate all kind gifts and friendly services that we receive and we must respond with politeness and cooperation. But, as an additional feeling of gratitude we must be thankful that we can help other individuals and our societies with their problems. What happens to our feelings of appreciation, when we dedicate ourselves to improvements, is a great deepening of identity with human beings. We eagerly want to be out in the world working on difficulties. So, we are very thankful that we can be part of the Universe going upward.

CHAPTER 6

ACCOMPLISHMENT OF ADVANCE BY STEP-WISE PROCESSES

How continuously can we expect relief for our troubles, so we can make systematic human advance in Problem-Solving?

In our drive upward, *Problem-Solving* seems to have an irregular process for our making improvements. Our preventive or remedial action almost always has a curious multi-stage procedure. While we try to work hard on our difficulties, our advance is by no means continuous. Our improving efforts tend to fade, as our spirit of determination is discharged. Then, we must repeat the introduction to our improving process with more learning, new ideas and better application.

Flow of Effort According To Human Mechanism And Analog

Committed to working on difficulties, our flow of effort has a mechanism that is common to most charge and discharge processes. Our course of action has several divisions that we can measure with different "quotients" to determine their relative strength. We must realize the nature of this flow mechanism, if we are going to increase our problem-solving effectiveness at a substantial rate.

Charging-Up (Measured By Our BQ Or Build-Up Quotient)

Our overall mechanism for applying effort to a problem starts with our becoming charged up. Here, we really have most of the primary elements in our belief. This charging-up division of our action concentrates our attention on the difficulty, so we get better acquainted with what needs to be improved. We get out our tools of knowledge and understanding, we delve into our

analysis and we sharpen up our creativity. In this primary process, we build up our motivation to get busy working on some preventive or remedy.

To stimulate our ideas, we gather more information about the problem and indulge in both thought and argument about these facts. During these reflections and dialogues, our imaginations probe possible preventatives or remedies and their relative chances of success. Our research explores for measures that might bear on our problem; our long range perceptions try to foretell the results of their application; our intuitive flashes of thought often provide us with our most useful ideas. 58

Finally we select a corrective measure that we think has the best chance of solving our problem. This proposal becomes our invention, which we determine to try as our means of making some improvement. Thus, the responsibility for choosing this idea prepares us for its implementation. Our choice of action, our determination to make the trial and our getting ready to start the corrective measure constitute our charging-up process.

Capacity (Measured By Our IQ Or Intelligence Quotient)

Each of us possesses various reservoirs of abilities, out of which our corrective efforts flow, after we are charged up. These sources of power for action consist of the physical, mental and emotional storage bins for our aptitudes. While we are charging ourselves up, we are simply replenishing these reservoirs of ability. As we store up competence in our storage bins, our power becomes available for improving action.

Our capacities for performing, understanding and feeling have various magnitudes. As is well known, we have inherited restrictions on our assorted types of competence. So, we might want to charge ourselves up to a maximum value for adequate disclosure of these capacities. Still, limits for our competence are not as restrictive as we might think, as we usually display such a small fraction of our possible aptitudes. Our abilities, supposedly largely genetic, may suffer from adversities that result in shrinkage and they may respond to various stimulations that result in expansion.

Additional capacity that we acquire by experience is of considerable value in augmenting our unexercised and untested abilities. Our making improvements enables us to learn the techniques and procedures for making more improvements. After we overcome many difficulties another one may seem easy to surmount, even though actually quite tough. Confidence

and skill that we gain from participation is an unevaluated but powerful element in our personal competence.

Intensity (Measured By Our VQ Or Vigor Quotient) 59

In our belief, charging up proceeds until the intensity of our vigor becomes adequate for improvements to start. Thus, we can measure this intensity by gauging our determination to get going. Most of the time, we must develop considerable mental and emotional driving force before we can advance. Flow of effort depends on the degree of enthusiasm that we can focus on the relief of our difficulties. This need for vigor means that we must have sufficient strength of purpose, before we can put our determination into action. Great enough effort on any preventive or remedy does not flow until eagerness evolves and energy arrives at high enough potential.

Our eagerness for progress may have genetic limitations in some measure. At least, some of us have phlegmatic dispositions and others can arouse our ardor quite easily. In any case, we can learn to increase our charging potential by self-stimulation, so that our driving force can overcome most barriers due to temperament or other emotional endowments. Fortunately, remarkable enthusiasm develops quite spontaneously in most of us who are dedicated to relieving difficulties. One by-product of working on problems is an acquired passion to work on more problems.

Involvement (Measured By Our AQ Or Action Quotient)

Although our capacities may become charged up to reasonable intensity, no improvement takes place until we start to work. Only after our action on problems begins can any of our beneficial effects commence to show. Lack of involvement just allows our charge to leak away. But, if we start to work with vigor, we may see our plans, which originated during our charging-up process, unfold before us. If critical enough, we may detect weaknesses in our plans and apply corrective measures that will insure progress. At least, we persevere to the limit of our fascination over our preventive or remedial action.

Quite naturally our involvement in action uses up our energy. After we struggle to produce improvements for so long a time, our enthusiasm wanes. Many types of resistance may develop, such as meeting human opposition, getting tired, finding something else to do, etcetera. Still, our involvement in progress may have its limits, largely because we have finite charge. The flow

of effort to our work on a difficulty causes discharge of our improvement energy. At some point, our work may even come to a standstill. So, whether we are either successful or unsuccessful, we require a recharging process.

Electrical Condenser Analog 60

We do not need to search long for a useful analog to our problem-solving mechanism. Flow of effort from us to some human difficulty is similar to flow of electricity from an electrical condenser to some place where we want an electrical charge. Our little TV part seems to supply our energy-flow-similarity quite completely. Application of both human effort and electricity depend on our four above factors: (1) charging-up, (2) capacity, (3) intensity and (4) involvement.

We can get no discharge from our electrical condenser until we (1) charge up its (2) capacity to a certain (3) intensity. Then, from a well known physical principle, the amount of electricity that can flow from our condenser has a product relationship:

(2) Capacity \times (3) Intensity = Amount available to flow

Thus, we must have suitable (2) capacity multiplied by (3) intensity before we have enough electricity for our purpose. Then, we must make contact between condenser and object to be given the charge in order to make our (4) involvement in discharge. Soon our flow of electricity stops, because discharge is complete. Then, our condenser must be recharged before action starts again. We can use this analog effectively to give us greater insight into our flow of human effort on difficulties.

Both electricity and human effort require comparable mechanisms for application of energy to desired action. In the electrical case, we (1) charge-up our condenser's (2) capacity to high (3) voltage and (4) contact its charged plate to a metal object before we get a spark. In the case of efforts on improvements, we (1) build up determination in our (2) human abilities to high (3) intensity and get started with adequate (4) involvement, before we work strongly on some human difficulty. Actually, these steps that are essential for our multistage procedure in working on problems are quite similar to steps of energy transfer in many many other action phenomena.

Simple Reference

Value in our problem-solving mechanism may be more

apparent from reflections on the need of crippled children for our help. Many of us receive no charging-up for this work with crippled children (our BQ is zero). In this case, we are inert to our problem and simply overlook it. Others of us acquire some charge of affection for such unfortunate human beings (our BQ is substantial). But, we do not have the capacity to display much tenderness (our IQ is low). Thus, little power of warmth can motivate us to relieve this difficult childhood situation. As a result, we do nothing. In another case, we have high capacity for human affection (our IQ is high) and we have considerable charging-up procedures (our BQ is large). Still, if we acquire some escape type short-circuit, our intensity never develops (our VQ is never high), so our efforts may be insignificant. More pathetically, we may be capable of retaining ample intensity of compassion (our VQ is adequate), our capacity for affection may be large (our IQ is high) and we may charge ourselves up to favorable degree (our BQ is acceptable) without any action. When we do not volunteer and get involved (so our AQ is low), our efforts never appear to help disabled children. Only when all four parts of our problem-solving mechanism are active can we make any significant step of progress.

When we study the pattern of progress for advancing the cause of crippled children critically, we see our multiple steps all too clearly. Occasionally all four parts of our mechanism for action are present and we make progress in training and fitting these precious people into our societies. But, eventually our efforts lose power. Then, our progress stops and we must prepare again for the next surge upward. 61

Some Ways Our Efforts Fade From Loss Of Charge

Awareness of some ways that our flow of effort on difficulties may develop fatigue, diversions or frustrations may prolong each step of our advance. We can keep from getting too tired usually by maintaining an effective supply of energy, taking time for relaxation and contemplation as well as sustaining our cooperation. If we want to avoid wandering away from our objective, we must continue close contact with our problem and refrain from any indulgence that removes us from reality. Some of our frustrations will lessen, when we keep our plans alive and avoid financial difficulties. Then, we must maintain the necessary understanding of what is happening and preserve the warmth of our feelings in order to keep our step of progress going upward as long as possible.

Some Ways Our Capacities Expand

We recognize that our intelligence quotients, which measure our capacities to cope with difficulties, may not be constants. Our enlargement of these individual energy reservoirs may never be very great after we reach maturity. But, even then we have the possibility of definite expansion in our personal talents that may have astounding significance in our lives.

One valuable means for expanding our personal talents is through the training of our imaginations. When we develop more inspiring visions of the future, we may enlarge our horizons drastically. Tremendous creative impulses are possible through progressive flights of fantasy. As the range and depth of our capacities increase from our visions, we may develop definite incremental increases in abilities. This type of expansion tends to extend our problem-solving steps of progress substantially.

Our experience working on problems is an important agency for building capacity, which we must emphasize because we have naturally degenerating effects that we must overcome. We can scarcely prevent normal loss of skills, as aging and disease shrink some of our capacities. But, our most unfortunate degeneration in abilities may accompany simple lack of use. Without practice, we can forget how to do some things almost as fast as we can learn. Our minds lose their thinking skills all too rapidly, when we do not make them do our brain work. Warm feelings go astray quickly in our emotions, if we do not practice tenderness fairly often. Still, when we keep in practice and expand our physical, mental and emotional experiences, our abilities tend to grow significantly.

"Time Has Come" Improvement

While charging and discharging ourselves many times, we may work hard on some problem with little success, until suddenly we have a breakthrough. Here, we may think that some mysterious force has decreed that the "time has come" for our problems to be solved. But, closer examinations almost always reveal quite rational explanations for this type of advance. In general, our persistence largely accounts for our achievements, whether they are gradual or simply postponed for some special time.

Our delayed success in problem-solving frequently results from some special decrease in the strength of our opposition. When our problem becomes more serious, resistance to relief may disappear rapidly, because of added concern. If under-

standing of our remedial idea becomes more widespread, obstruction may fade under this illumination. Then, we may improve our suggested remedy and thus get an agreement that breaks the deadlock. Compromise is a highly strategic method of reaching one more step in progress.

One of our effective means for breaking down resistance to our step upward is to develop greater cooperation among those who should be interested in the advance. Such support for our work on problems can arise from the favorable impression that we make by continuing to work hard. We can also secure more backing by using communications that make our remedies more attractive. Our efforts on improvements must continue to enlarge our joint participation, whether our results are successful or unsuccessful. Still, one breakthrough is only another step upward, which must press us strongly to make the next one.

Tests of Effectiveness Help Us Begin Again

When we are on top of a step upward during some remedial action, opportunity is ripe for evaluation. Our results are not automatically wonderful, just because the efforts are ours. So, we need critical observations about ways in which we can make strategic revisions in our plans that will give additional enrichment. As we look at our stalled problem more closely, we may get ideas that will touch off renewed enthusiasm.

Our evaluation instrument must be applicable for the particular improvement in question. Health and safety are subject to qualitative gauging with physical testing and statistical techniques. We can measure our increase in understanding by deciding how practical our ideas are. Warmth of spiritual life requires subjective appraisal through our feelings as to whether our situations are getting more compassionate. We can also determine if we are finding more pleasant humor in our efforts by assessing friendliness. Freedom is measurable on a semi-quantitative basis, by determining how well we distribute power. Justice has its own equal-opportunity scale that enables us to estimate fairness and impartiality of treatment. Peace is accessible using a measure of our skill in accomplishing reconciliation and avoiding violence. Definitely, our job is to make more accurate measurements of our progress, to estimate future possibilities with greater skill and to use this information in getting started again.

We must use upward-direction-finders, distance-estimators

and speedometers in our tests of effectiveness. With our altimeters, we need to determine if we really are going upward. In these measurements, we test for all factors, like increasing freedoms, improving justice, strengthening personalities, advancing bodily well being and warming up emotional life. Then, with our yardstick we must measure how far we have gone upward, which is an important estimation. Also, with our speedometer we must determine how fast we are making our advance. This instrument may help us decide what type of revision might speed up our improvements. All kinds of tests may be useful in renewing our vigor, after we learn how to use them.

During our tests, we must make stability analyses that estimate whether our progress is temporary or permanent. We often take steps upward, to where our advance floats along with little support, ready to collapse when our transitory prop fails. In such situations, minor added support frequently makes our progress more permanent. The durability of our first upward step is an important assessment that might stimulate our next effort on advancement.

Whenever our work on some improvement bogs down, we can sometimes recover enthusiasm by estimating our ratio of probable risk to possible benefit. If we discover that our chance of encountering trouble during our new effort is low and the human advantage from our progress is great, we can generate renewed optimism easily. Any favorable appraisal may build-up our force for accomplishment again to a high value.

Thorough evaluations of progress must determine if our step upward has carried along enough improvements in its wake. Too often, we make headway with our efforts, only to by-pass much of our total problem. Then, we may need to back up and work on adjacent parts of our troubles, which failed to move when we tried to make them improve by association. Our advance on a broad front is necessary for significant progress and very helpful to stimulate renewed efforts.

Estimations may also be essential to determine if we have concentrated our efforts sufficiently. We may try to solve too many unrelated problems in one under-powered attack. Spreading out our struggles may be desirable only for quite related difficulties. Often our diffused efforts accomplish little. Our solutions to problems may be particularly weak, if we make one success contingent on another. So, new vigor may follow our determination to make a spear-head attack during our next step upward.

Our Struggle Recommences After Reinvigoration

If we have complete dedication, *Problem-Solving* remotivates us to make more audacious plans for our next upward step. We become deeply aware that our human problem still exists and our consciousness of the difficulty challenges us to reawaken. So, we rebuild our determination to make more progress. Along with any new concerns, our belief gives us feelings afresh of confidence and self-reliance. We know that eventually we will accomplish still greater progress in relieving our trouble.

We get our capacities charged up with all of the forces that are essential for our resuming an advance. All of our innate skills focus on developing new ideas; all of our newly acquired traits converge on helping us take the next step. These fresh principles and innovative techniques drive us toward resuming our march upward. Each stage in our advance turns into a rich educational experience that tends to enlarge our basic competence.

Our charge intensity returns strongly as we realize that we are part of the Universe in motion. Eager anticipation of what improvement we might carry out next rebuilds our determination to a high value. Increasing sensitivity to human need creates renewed responsiveness to any problem, which requires more of our efforts. Our adventures get more and more exciting as we reinvigorate our lives.

Our reinvolverment in our next step upward becomes quite spontaneous. Our new impulses thrust us out of any idle fringe, where we might have drifted, into the mainstream of progressive action. We refuse to be left out of any new animation for advance. So, we forcefully recharge our reservoir up to original high intensity and start working again on our improvement with renewed vigor. Reimmersing our lives in any daring adventure gives us maximum fulfillment.

CHAPTER 7

DISCOVERY OF WHO WE ARE

How can Problem-Solving give us reasonable answers to that most vital question of who we are?

Each of us has a longing for identity with ourselves as well as with others. We are here on earth without being consulted about our willingness to become human beings. Ancestors and parents have given us names; routines of eating, drinking and sleeping have kept us alive. Our misfortune is that many of us seem to either drift aimlessly in a stupor or dash madly along in a treadmill. Who we are and why we are here remain our two greatest puzzles, which Problem-Solving can help us unravel.

As problem-solvers we wake up to the curious dynamic nature of our identity. We find our fundamental purpose for living in helping with everything that is advancing in our world. Duality of our existence in the Universe is almost certain to penetrate our consciousness. In broad cosmic view, we are infinitesimally insignificant. On closer inspection, we are extraordinarily important, one of the great accomplishments of our cosmos. While we struggle for our greatest possibilities, we bring these two views into line with each other. Whatever progress we make fits us meaningfully into progressive action of the Universe.

Problem-Solving discloses who we are by buoying us up with maximum hope for significant accomplishment. Our action on improvements stretches our thoughts and feelings until we experience inspiring identity. We acquire this physical, mental and emotional reality just by working on problems. To us, not a single step of progress is insignificant or free from enjoyment. As we give our improvements great enthusiasm, we tune our lives to the tremendous expanse of cosmic satisfactions.

Expanding Perceptions As Identification

Our bodies are among our most precious possessions. All of those chemicals that make up our body weight are part of us. Still, chemical substances are far from being something that we can identify with. But, after these elementary building blocks acquire special organization, they have close association with us as human beings. We are all of those muscles, layers of tissues, bones, tendons, nerves, sense organs, digestive organs, circulatory organs, brain and centers of feelings. Yet, we scarcely know that they are there, unless they cause us trouble. We can never be too anxious for them to function smoothly, so we can operate trouble free. And, this concern means that we must keep trying to make our organs work more effectively.

We are that remarkable inner vitality of being alive with animation, thoughts and feelings. Electrical potential differences develop that send electrolytic currents passing up and down our nerves and muscles. Also, our muscular pumps create pressure differences in our various inner tubes containing fluids that have nutrients. Then, these fluids flow all over our bodies carrying vital materials. Extraordinary coordination of electrolytic currents, chemical activity and fluid flow keeps our various functions working. In spite of its remarkable mystery, we are more than all of this physical animation that takes-place inside of us. We can make these essential operations perform better, so we can feel the exhilaration of improvement.

Life soon tells us that considerable input is necessary for our complicated electro-chemical-mechanical machines to operate and grow to maturity. Having these requirements suggests that we might be the food that we eat to furnish muscles and nerves with energy. We might also think that we are the stimuli that produce active responses from our minds. Any sharpening of our memories, reasoning or understanding tends to become part of us. Particularly those beautiful feelings of love and friendliness that reach down from others into our emotions are important segments of who we are. At the same time, these essential input parts of our experiences do not complete our picture. Where we enhance the nature of what we put into our lives in Problem-Solving, we can enrich the quality of our conscious selves still further.

Our present personal abilities and skills are important elements in our identity. Useful parts of us certainly include that muscular dexterity, which enables us to carry out helpful manipulations of hands and feet. Our mental competence that

gives us our power of reasoning and understanding is a valuable function in our lives. Also, we are largely the expressions of our fine feelings that enable us to communicate warmth to others. Still, such expertness that we possess at present must be greatly enhanced when we commit ourselves to Problem-Solving. Our personal identity stretches out much further, as we expand our talents to cope with difficulties.

We acquire our most exciting image, when our talents are used to produce greater output of all motion upward. This reliable symbol of who we are is the degree to which we help wherever problems need to be solved. We are more completely those improvements that we are developing in our muscular skills, when we use them to make life better. Any invigoration in mental competence that we use with enthusiasm to cope with serious human difficulties becomes a very important part of us. Our identity becomes much clearer through the enrichment of our fine feelings, which actively builds a more friendly world. Such increasing skills provides a satisfying answer to our question of identity by making us part of the Universe in magnificent motion upward.

Emerging From Behind Our Screens

Large numbers of us acquire superficial behavior and artificial appearance that can scarcely be removed without working on problems. Elements of our early environment and training cause us to put on many types of disguises that hide our potential selves. These facades become so ingrained that we cannot get rid of them, unless we substitute some more powerful progressive force for such regressive urges.

We can develop an astonishing number of compulsions that mask our lives from real satisfactions. Some of these traits are highly degenerative, like lying, cheating and stealing. We can certainly look better without adopting such unfortunate features. We can also have sex obsessions that give us poor positions in our society until we discard them. Many habits, like gossiping, buying too many things, over-eating, drinking and smoking, prey upon us remorselessly. These are not the kind of preoccupations that can be thrown off easily. Human experience suggests that we can emerge from behind such masks only by getting busy and coping with difficulties. We need some interesting movement upward as a substitute for any downward motion.

Superstitions disguise our true identity, sometimes beyond

recognition. When we trust magic to change either positive or negative human performance, we engage in an effective self-cover-up game. Our true-selves do not want us to rely in any way on the irrational. In fact, for progress we must avoid illusions and witchcraft that cause us to carry out weird stunts. We must even time our actions for strategic purposes rather than to conform to some ritual, when we take command of our destinies. If we are ever able to take rational control of our lives, we may need to embrace *Problem-Solving*.

We have difficulty discovering what kind of a person we are, if our lives are concealed by any adverse emotion. Irrational fears rob our personalities of strength and camouflage our possibilities until we cannot recognize them. Our identity can even hide behind simple anxieties, such as fear of motion, dark or animals. Hatred of another human being diverts our feelings until we do not represent much of our natural selves. Many other unsatisfactory emotions shroud who-we-are underneath their facade. We may be able to sublimate these negative feelings in various ways. But, our best way to discard our antagonisms to life and expose our genuine emotional selves may be through dedication to relieving human troubles.

Our identity is easily lost if we retreat into depression. So, we must struggle hard to recover reality from this hiding place. Our withdrawal may follow, when we think that we cannot direct our own lives. In this case, we may become convinced that we have nothing to look forward to. If we adopt such regressive attitude of self-depreciation and despair, our lives may become empty and futile. To pry ourselves loose from this despondency, we must reverse our regressive process. As a start, we must develop some hope and must stop putting ourselves down, so our self-assurance can start to build up. Then our lives must begin to be useful and we must evolve things to look forward to. Finally, we must become excited by the recognition that we can control much of our destinies, while we accept the rest of what happens to us. Such life-reversal seems possible only when we get involved in coping with difficulties. We can use our exhilaration in Problem-Solving to help snap us out of any dejection.

Up-Surge To Our Performance

Students of human behavior point-out that we have enormous undeveloped capacities and unattained physical, mental and emotional potentials. Apparently, we use only a small

percent of our total capacity multiplied by potential. Most of "who we are" is hidden by a cloak of partial paralysis. If we want to discover really "who we are," we must discard our static mode of inaction and display an upsurge of performance. But, our possible abilities will always be just beyond our reach. So, when we are working on problems, "who we are" becomes the exciting adventure of trying to reach "who we might be."

Reasons for dormancy in our human skills become clearer as we attempt to uncover our identity by reaching for our possibilities. Our unused capacities and potentials originate largely from our not becoming familiar with the extent of our latent power. Our inaction is natural, because our training is limited in coping with difficulties. Most of us have not learned to recognize our great needs and to increase our Problem-Solving skills accordingly. When dedicated to this belief, further improvement in our competence keeps opening up ahead of our progress in acquiring greater abilities.

We get more familiar with ourselves by becoming increasingly significant problem-solvers. Our real selves are the parts of us that show greater response to challenges. Our identity discloses itself as an expanding fire in us that demands that we achieve more improvements. On this way upward, we must engage in activities that are growing more constructive, creative and exciting. Our involvement in these progressive activities goes a long way toward revealing "who we are."

Independence In The Midst Of Cooperation

Our identity is measurable by determining how fast we are increasing in value to ourselves, our communities and all human beings. How much we count depends on how well we use our independence and how well we cooperate with others. "Who we are" comes into focus better when we count for more. Also, what is deep down inside of us decides the friendliness and completeness of our cooperation.

In this approach to personal awareness, we first classify our needs as they are being met or not met at present. One such arrangement has four parts, (1) unfulfilled needs, (2) wants satisfied by others on a noncooperative basis, (3) self-fulfilled needs and (4) wants satisfied by ourselves and others on a cooperative basis. We might imagine that such a chart, filled out completely, would represent us. But, our view of "who we are" really requires a dynamic picture.

Our moving image places us on a chart of rates at which we

are transferring our needs from one part to another. Here, we must turn to *Problem-Solving* to obtain a self-portrait of us going in the direction of increasing friendliness and improving cooperation. Our new classification has only three parts, (1) the rate at which we are transferring unfulfilled needs over into fulfilled states, (2) the rate at which we are transferring wants satisfied noncooperatively over into states where they are satisfied cooperatively and (3) the rate at which we are transferring self-fulfilled needs over into states of complete satisfaction. When we look at our new chart with its three ratings of improvement in how we handle our wants, the image of "who we are" shows up relatively clearly.

Added Human Dimension

Our belief tells us who we are by exposing an upward dimension in our lives. When we get going upward with enough effort to create improvements, we automatically receive elevation of feelings that supplies identity. Our being busy working on difficulties produces a lift to our lives like rapid forward movement of its wings produces a lift to an airplane. Our excitement and elevation in our living is not some magic disclosure of self-awareness; our new dimension obtained through problem-solving is just the way the Universe works.

Any airplane wing has suitable shape, which presents different contours top and bottom to any stream of air. When we force our asymmetric wing through air, the pressure underneath becomes greater than on top. The effect of this difference can be a substantial component of force upward. Then, we can make the area of our wings large enough and the forward velocity great enough to allow our pressure difference to lift large loads. Eventually, we can end up with the lifting power of a modern jet airplane.

In analogous fashion our human egos have emotional structures that produce lift to our feelings, when our work on problems produces real movement. Our dedicated lives, impelled onward in our struggle for improvements, create a buoyant strength in us. Such exhilaration seems to originate in our unity with the Universe, as we become part of its cosmic motion. While we increase the area and speed of our advance, our lives experience greater emotional lift. Our extraordinary elevation during work on many problems discloses "who we are" by revealing our added upward dimension.

Airplanes are not those giant dragonflies, resting on an air-

port runway. They are those graceful structures in motion that rise into the airways bound for destinations thousands of miles away. Likewise, in our belief we are not those static human beings, resting quietly in the face of our difficulties. We are dedicated activists struggling, in an atmosphere of excitement, to make progress real in every human area. 72

CHAPTER 8

PERFORMANCE: MORE EXCITEMENT IN OUR DEVELOPING WORLD

How does Problem-Solving bring warmth, courage and excitement into our lives, while we are growing up? 73

Our births toss us suddenly into our magnificent world of problems. As we arrive on earth, we are living bundles of potential for engaging in many human activities. Our first responses include giving free reign to dexterity, thought, feelings, communication, fulfillment and growth. At our start in life, our immediate capacities are small except that for growth, which is enormous. In fact, we will never be able to discover how vast our possibilities are for all kinds of development. Our initial environment may always be short of some invigorating quality. We may always have other possibilities for stimulation that would enable us to develop faster or go further. Still, human growth being the essence of our lives, we are extremely active believers in *Problem-Solving*, when we first arrive on earth.

We will study our experiences during our earliest years as though our parents gave us great momentum with the maximum introduction to working on problems. Our assumption will be that our parents had special training, prior to our birth, in how to be more effective and compassionate mothers and fathers. We will suppose that our fathers were present at our births and both mother and father made tender loving contact with us shortly after our arrival. Then, our analysis will continue to take for granted that we are growing up in homes that are dedicated

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to teach us how to make rapid progress in our expanding world.

We credit our belief in coping with difficulties as providing the realization that our homes play critically essential roles in our developing world. At first, we have tremendous personal problems that we cannot handle by ourselves. But, our beautiful homes can instill compassion, awareness, concern, understanding, determination and involvement that we need to make our improvements. Then, every useful means for home communication can help us make progress. The earlier and the more continuously we get our problem-solving instruction, the more completely we may get involved in our progressive activities.

Better Input For Bodies, Minds And Emotions 74

Physical hunger is a frequent oppressor in our earliest years. Immediately after birth our contention with hunger causes us to cry for something to eat. We quickly understand that our bodies need satisfying food. In a comparatively short time, we can relate better nutrition to the pleasure of being well and strong physically. If our parents show us the relation between fitness and adequate diet, we can adjust our taste to liking food that provides sounder bodies. Suitable instruction may be our only chance to avoid indulgence in some harmful input of food that robs us of physical health. When we achieve the excitement of having more healthful nourishment, we have opened one important way to our dealing with problems.

Our very early exploration starts our acquaintance with our physical nature. We soon try to identify each part of body and limbs with position and function. While any encouragement with discovery cheers us on, we freely explore arms, legs, eyes, nose, mouth, ears and genital organs. We get enormous satisfaction out of improved usefulness of body and limbs, even when we are unaware of any part that we cannot see or feel. Our learning to crawl provides joyful occasions that drive us on to greater physical accomplishments. When we stand up and walk, our personalities realize a momentous transition. Our elementary belief furnishes input for remarkable increase in physical well-being, while we are learning about ourselves.

When we enter our developing world, we have extraordinary possibilities for mental growth. Our initial mental capacities and intensities are naturally low. But, as we get our introduction to *Problem-Solving*, our challenge to engage in human improvements becomes a great mental stimulus. We may even take advantage of the fact that nothing expands capacity like use and

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give our minds lots of exercise. In this case, we may never know the limits to our skill for developing intellectual capabilities.

In our initial existence, we have an enormous thirst for knowledge. So, our mental inquiries reach out in all directions. Our enthusiastic recognition of new facts occurs readily, as we are looking eagerly for information. Also, we receive still greater inspiration for learning, as we realize that our new knowledge can be applied to accomplish something useful. At least, our determination to learn more skills follows the self-confidence that we obtain by acquiring more insight.

Excited by our world of problems, we also exhibit minds that probe for reasonable abstractions. As ideas enter our thoughts, we begin to think about what is going on around us. Where we are subject to stimulating examples, we formulate our ideas into theories to be put into practice. Thus, we gain experience working on difficulties that further nourishes our competence in organizing thoughts. Dramatically, such new perceptions keep increasing our mental keenness.

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As smallest infants, we are naturally quite charming. Our ability to enchant all who observe us is quite an active talent. But, really we need continuing input of warmth to keep our attractive emotional strength growing. When we feel increasing love of parents through touch, motion, sound and body contact, we react with a show of accelerating warmth. In our helplessness, we have limited ability to express affection, but tremendous capacity to take in beautiful feelings. But, as our lives receive increasing affection, our tenderness develops expanding strength.

Possibly the first stage in the growth of our compassion consists of an increase in sensitivity. As we receive more and more affection, warm sounds and loving contacts come through clearer and clearer. When more beautiful tones strike our ears, friendliness penetrates our feelings with greater enrichment. We are better able to perceive an elevation in the beauty of our feelings, while any deeply cherished compassion is being felt more strongly.

After we build up greater sensitivity to tender feelings, we respond with greater intensity to any show of affection. Our encounter with deeper compassion makes us actively more loving through some first-hand learning process. So, as we learn greater warmth, we show our beautiful emotional development by being more tender ourselves. Then, as we use our tender emotions, our compassion can be expressed more strongly with

scarcely any known limit.

Less Injury To Our Possibilities

Our possible personal abilities suffer from many hazards. So, we are fortunate that problem-solving in the home contributes much to our personal safety and health in our developing years. We not only have fewer injuries but have less damage from all kinds of sickness. In reality, our improved care may extend widely into all physical, mental and emotional areas. Mental and emotional health are definitely necessary for physical well being; physical and emotional health may be essential for mental strength; physical and mental health may be requisite for emotional enrichment.

Avoiding physical mishaps is an important objective for us while we struggle with our early difficulties. Our safety requires training in working on problems in an atmosphere of complete reality. Only then will our recreation and personal adventures result in fun without remorse. While coping with difficulties, we do not need to be careless to obtain tingle sensations. We must also escape physical abuse, if we are going to maintain our dedication. If our every day living gives us an accent on doing each little job better, we will get sufficient excitement along with security.

While coping with difficulties, we must acknowledge many continuing problems of feeling well and strong physically. If we learn that certain practices promote disease, we must avoid them. Immunization against the attack of viral infections must be acceptable. We must learn to breath deeply and exercise strenuously. After realizing the correlation between physical fitness and good diet, we must adjust our tastes and call for food for better health. Instruction in what to eat may be our principal chance to avoid practices that rob us of physical vigor.

When we obtain adequate introduction to the possibilities in growth, we can avoid or overcome mental injury. Physical harm is not the only damage to our brains that we must avoid, when we work on problems. If we simply become mentally inert from lack of stimulation, our injury may be as severe as disruption of brain tissue. But, with our need for knowledge, we can elude teenage dogmas that allege that learning makes us queer. Even if our schools grade us down, we can refuse to be kept down. While we are struggling to improve ourselves, our minds heal readily after all kinds of discouragement.

Departures from mental health through sickness reach every

stage from irrational beliefs to complete derangement. Our chances of avoiding any such illness increase as we learn to solve problems. Where our home life is warm and stimulating during infancy, we have greater likelihood of acquiring vigor. If our discipline allows us greater opportunities for contributing to our own development, our mental health may be still more sound. In our belief, our minds build the sense that we really belong to our society. We have that confidence and security, which completes our intellectual well being.

With our fascination for relieving difficulties, we reach out for more tender human contacts and our feelings are not easily hurt. We may even welcome emotional problems as opportunities to heal our lethargy and strengthen our sensitivity. Well trained feelings usually require careful parental guidance. While we practice increasing compassion under this guidance, we are usually able to prevent emotional injury. Hatreds do not mess us up much; jealousies do not consume us; fears do not build up such damaging tensions. Devotion to better feelings elevates our lives; passion for greater warmth captures us internally; power of greater gentleness repairs our emotions.

Emotional illness may also be preventable through our activities in struggling for improvements. While we are busy working to prevent or relieve difficulties, our feelings do not allow us to brood over our shortcomings. Our learning and participating save us from crying over failures and tragedies. We also may be immune to depression, if we dedicate our lives to advancement and catch the excitement of taking part in human progress.

Greater Expression Of Ourselves

When young, our overall growth demands that we reveal ourselves through action on every front in our daily lives. Naturally, our developing world provides us with considerable opportunity for physical, mental and emotional expression. But, our belief in working on problems seems essential for us to take full advantage of our opportunities automatically. We need to use our muscles, thoughts and feelings more skillfully while coping with all of those difficulties.

We get satisfactions from various exercises, which we carry out naturally or to keep in condition. Still, where we can achieve our greater enjoyment is in discovering how to use our muscles and breathing apparatus more effectively and efficiently. Running, jumping or pedalling a bicycle with greater skill must give us its own reward. Then, when we connect such

exercises with learning how to play vigorous games better, our fun builds up to considerable gratification. If our actions penetrate deeply through our senses, as in producing more beautiful music, our needs are satisfied more completely. Rhythm of a dance can bring special enjoyment of expression, as we learn to move through patterns more smoothly and gracefully. Solving elemental problems of physical motion more successfully can be quite exciting.

Whenever we pursue knowledge and understanding, we acquire special pleasures that come from improved mental performance. Our learning and thinking that are necessary to solve problems are valuable for their own sakes as well as for the improvement purpose. Our building some comprehension of our Universe creates astounding fascination. Then, linking our thoughts to all parts of our lives provides additional charm of expression. Our mental operations may appear in artistic creations of many kinds; our rationality may make all parts of our lives more practical.

While we are growing up working on problems, we develop more beautiful feelings by expressing them. Our best entrance into the world of warmth and friendliness is to feel this warmth from others and then to respond with our own affection. Actually, we learn to love by being loved and then loving in return. All demonstrations of deep compassion can make indelible impressions on our lives that give greater power to our feelings. Then, expressions of warmth may be the only way to solve most of our serious emotional problems.

Facing Realities More Completely

When we have the skillful guidance of parents in coping with difficulties, we can get involved in improvements realistically. We can see life as it really is and face its problems squarely. With our dedication, we take on the necessary discipline willingly, we assume the increasing responsibility gladly and get busy working on many kinds of difficulties vigorously. Facing all kinds of realities more completely builds a high degree of enchantment.

While working on problems, our improved attitudes are important by-products of our fascinating struggles. Certainly our persistence must grow stronger. Once caught up in our belief, we cannot stop our efforts toward human advancement. Still, our progress is often dependent on our waiting patiently for results. Once we are able to obtain some indication of what

these results are, we must analyze them critically. Then, many of those old measures of worthiness must be regarded as realities. Thus we learn that honesty, courtesy, humor and tact play vital roles in our coping with difficulties. Our assuming all attitudes quite close to reality is increasingly important, as we develop greater concerns for human improvements.

Involvement in improvements teaches us at an early age that we must treat others fairly on a broad base. Justice must show an absence of discrimination; reality must demand that we disregard human differences in all of our dealings. So, we must prevent any mark of distinction, such as race, size, symmetry, appearance or handicap, from influencing how we regard others. We are all together in our world without our consent and have the responsibility to treat each other with increasing respect.

Greater Power For Cooperation With Others

When parents teach us that being helpful around the home brings real pleasure, we have a superior introduction to problem-solving. From this point on our efforts in coping with difficulties can expand easily. Our communication with parents can only improve and working together with them becomes a matter of course. Thus, while our homes become delightful cooperatives, our power expands for joint operation with many different people.

Oddly enough our experience coping with difficulties creates the strength of two opposite entities in our lives. Personally, we become increasingly independent, as the result of our expanding self-confidence. At the same time, we have closer identification with others who need our help or need to help us. Our giving help to others in distress brings remarkably valuable returns. As we become more competent in helping to relieve difficulties of others, we obtain more help from others in solving our own problems. Most of our serious troubles require the efforts of many independent individuals helping each other. Naturally, our lives become more fascinating, when we devote more time and energy to this type of cooperation.

As we grow older, we learn that our society depends on us to keep worthwhile group activities going. When we catch the inspiration of participating in an advancing society, our lives can assume a still more animated tone. Our adopting increasing responsibility for being active in human organizations generates growing satisfactions. Better cooperation in our societies develops greater power for progress in our world.

Overcoming Disadvantages In Our World

Even though we suffer the disadvantage of being born into poor circumstances, our chances of adopting problem-solving may not be lost. Our primary lack of physical care may set back our bodily development; our initial poor mental stimulation may provide roadblocks to our intellectual vigor; our original low level of compassion may be hard to surmount emotionally. Still, our belief has the peculiar ability to thrust itself into our damaged world. Then, if we allow ourselves the opportunity to experience the pleasure of working for improvements, we may feel the strength of this belief. We may break loose from where our atmosphere is stultifying and create our new environment, in which we struggle vigorously with our difficulties. 80

Highly disadvantaged or highly advantaged, our emotions seem to search for a spirit that will make our lives exciting. During this quest, we are certain to encounter situations, where we can get involved in working on problems. Our great opportunity is to recognize the tremendous need for coping with difficulties, whenever we find them. If we are fortunate enough to grasp this beautiful spirit, we can embark on a sea of entrancing inspiration.

CHAPTER 9

DELIGHTFUL PROGRESS ON OUR ROAD TO MATURITY

How can our struggle for improvements in Problem-Solving make our maturing years more tolerable? 81

When we dedicate ourselves to making human improvements, our maturing years must be strongly occupied in making life better. We must abandon backward or arrogant reactions and adopt progressive or remedial responses. If we are not involved, daily tensions and turmoil may be scarcely tolerable. But, when relieving our difficulties, we must have such eagerness to take physical, mental and emotional steps upward that daily disturbances are just more problems. Propaganda may suggest that our progress is largely accessible from spectaculars, like astronauts riding around on the moon. Yet, while retaining some sympathy for this view, we must realize that our more important requirements include equal opportunities for all of us to make human improvements. Technical communications keep connecting us more effectively with every point on earth. Only we must insist that our far reaching contacts serve to decrease and not increase human exploitation. Our travel has developed tremendous speeds. Yet, we must be increasingly aware that our greater need is to speed up the warmth of human relationships.

On our road to maturity we must concentrate on what we can do to strengthen the spirit in our personal contacts and our future homes. Here we recognize the great necessity to build cooperation into the substance of our basic human structures. We do not emphasize any strict moral code for human conduct. Our prescriptions for cooperation have bases in attitudes and actions that might make relationships and homes better rather

than rigid. So, adopting our belief in coping with difficulties may be our best means for measuring up to our increasing responsibilities as we mature.

Sublimation Of Sex Feelings And Actions 42

We have two types of human beings, male and female, and sex acts between male and female are responsible for human reproduction. This significant fact of life makes male-female relationships among our most baffling human problems while we are growing up. Few realities of life confuse us as much as sex; few aspects of nature are so hard to understand. We cannot continue our species on earth without it; we cannot limit our numbers of human beings on earth with it out of control; we cannot repeal it and no one would ever suggest such a thing. Of course, the ambivalence of sex has many serious aspects. Copulation may be a pleasurable experience or an introduction to trauma. With suitable sublimation in a beautiful marriage setting, sex can serve as a powerful cement for family unity; without elevation to heights of compassion, sex can expose us to bewildering mental and emotional frustrations. Fortunately, when we work strongly on our problems, our road to improving mental and emotional controls develops remarkable sexual sublimation.

In our earlier years, we become aware of sex through a gradual awakening process. At first, difference between sexes seems detectable largely through diversity in firmness to touch, male being harder than female. Soon, we recognize that our two body structures and our two types of sex organs are different. Also, games played by our two groups of human beings become acceptably unlike in violence. Many male children want to battle other males at slightest provocation; most female children are decidedly less prone to personal assault. On the early section of our road to maturity, sexual differences are not highly important. So, we are open to wise instruction in sexual control and adjustment that are available in a home dedicated to working on problems.

Before many years, our outlook in the two sexes becomes different and we recognize dissimilarity in our basic sex functions. Someone is usually around who gives us some idea of how copulation takes place. Still, as youth we may have difficulty figuring out how our two sexes participate in reproduction. Usually, we do not see any exhibitions of the sex act, unless it is by dogs. But, if we have adequate training in working on

problems, we can learn how serious is the relationship between man and woman. We can elude the views that sex is either some colossal joke, or some offensive performance or an act that we can rush into irresponsibly.

In due course of time, we experience masturbation and can connect this tingle with sex. Such self-stimulated feelings are usually quite accidental at first. As females we may allow our fingers to penetrate vaginas or as males we may climb poles in ways that erect penises. So, with these experiences, we are in possession of enough facts to imagine the tingle sensation of sexual orgasms. Then, as females we undergo menstruation, which verifies ovulation and possible pregnancy that might have seemed like a casual mystery. Hopefully, someone is around to explain that a baby may develop in the body of a female as a result of a sexual act. But, some training in working on problems may be essential for us to confront this serious outcome of sex thoughtfully and to oppose any rash experiment with our instinctive pleasure drive as an act of foolish self-indulgence. 43

As we reach maturity, we approach a maximum in our intense sexual drive. At this point, we may need the restraining force of our dedication to make improvements as a control over our powerful sex instincts. Of course, we can learn about our code of sexual morality, wherein intercourse outside of wedlock is wrong and has calamitous effects. Still, this negative rule does not restrain many people very effectively. We learn about the promiscuity of our sexuality cults quite casually; we hear others brag about their illicit copulations quite occasionally. Then, everyday conversations reveals that our sacred sexual unions may not work out very satisfactorily sexually. As though we were not confused enough, we may have some contact with homosexuality and hear about the gay society. Into such bewildering situations, *Problem-Solving* seems to show the only way out. We have an astonishing number of practical and emotional problems that call for sublimation of sex; where we do not restrain our sex before marriage, numerous difficulties in our homes tend to overcome us.

One way that our belief sublimates sex is to classify our homes in terms of how truly gratifying our marriages become. According to this classification, a high ranking home is one in which the relationship between husband and wife grows increasingly satisfying and fulfilling in all respects. As our high ranking home grows warmer, more secure, and more cohesive, husband and wife experiments with sex occur spontaneously. While our

partnership becomes increasingly cooperative, our union grows more sublimely erotic and more sexually satisfying. We practice fidelity without the thought that infidelity breaks some moral code. Our sex sublimation is intrinsic and not prudish. Solely our copulation occurs in our high ranking homes, because the thought of extra marital sex becomes nonsensical.

Our high ranking home needs sublimated sex between parents to consolidate the trust and faith in the union. We must use all possible practices for making our homes more exciting and satisfying in order to have our relationship grow warmer. Here, sex can supply valuable ingredients in this warming up process. Simple buildup of sexual feelings in such superior homes can inspire our human bonds to greater strength. Then, experimental participation in the sex act under beautiful conditions can increase the cohesive force in our union still further. Children deserve to be born into a high ranking home that has this atmosphere of sexual sublimation in order to feel the resulting inspiration.

As a reverse requirement, our increasingly satisfying sex lives need homes that are growing more beautiful. Our high ranking homes create conditions for enrichment of feelings where sexual satisfactions can grow substantially. Sex becomes more rewarding when the participants have a deeper sense of fairness and cooperation. Then, contrary to various myths, we seldom emerge from our marriage ceremonies as accomplished sex performers. Human copulation has several possible procedures and our gratification benefits considerably from sexual experimentation. Our high ranking home furnishes the most suitable place and environment for maximum adventures in sex. If we cannot reach increasingly pleasurable orgasms in our marriage, we may need professional help with technique. Still more likely, our requirement may be for help with our home life.

In high ranking homes, we are not battling secrecy. Our faithfulness is at a maximum, because we do not think of mistreating our mates by any means, especially through infidelity. Our homes that grow more exciting in dedication to all kinds of improvements are remarkably open in every respect. Then, strong cohesive forces of working together in our partnership create unity and stability. So, sex sublimation through our problem-solving spirit may largely be responsible for marital strength.

Another way that our belief ennobles the existence of two kinds of human beings is by promoting warm relationships

between people regardless of sex. We feel other passions besides eroticism; we think of other affinities beside sexual unions; we crave many other satisfactions beside orgasms. When we are working on other problems with dedication, we can actually take our minds off sex. Our belief recognizes human beings as being much more rational than other animals. Thus, we are quite friendly with many members of both sexes simply because our personalities attract each other.

Our culture strongly needs both male and female human beings for other reasons than procreation. We would be missing great enrichment in music without both male and female voices to sing the different parts. Drama would scarcely be able to portray great events in human affairs without the acting of both sexes. Participation by couples of opposite sexes makes dancing more enjoyable. Actually, such mixed involvement might well be expanded into other human areas.

Many of our problems, not related to sexuality, require action by organizations containing both male and female members. The blend of contributions by each sex is almost always beneficial, on account of the difference in temperament. We must certainly work together to eradicate war, crime, poverty and many other social difficulties. Even political and economic operations demand harmonious coordination of groups containing both sexes. In particular, the female influence tends to moderate the violence of our human responses. At the same time, the male influence tends to produce more decisive action. Cooperation of male and female may be confused, if we have any overemphasis on sex and any underemphasis on the fact that we are all human beings.

A further approach that our belief in coping with difficulties makes to dignify restraint of sex is through demanding reduction in birth rate. Such limitation in annual pregnancies per unit of population requires far-reaching application of effective birth control methods. If we are dedicated to working on problems, we certainly are willing to use birth-control methods. Then, another helpful means for keeping the size of our families regulated is for us to abandon our obsession with sex. And, when our marriage friendship acquires deeper love and affection, we can sublimate our sexual desires.

When we are working hard on problems, we must respect sexual continence by recognizing the hazards of venereal disease. Promiscuous sex has spread these human ailments until they represent a serious impairment of health in our societies.

Uncontrolled obsession with sex offers us little chance for relief from these diseases. But, if we concentrate our marriage activities on building beautiful high-ranking homes, we may be able to control loose sexual alliances that promote these dangerous afflictions.

Selection Of A Partner For Marriage

When we contemplate marriage, puzzles arise thick and fast. Our marriage pairing process seems to be the most baffling ordeal shared by two human beings. We have great need for developing useful rules for picking or accepting a mate and our belief offers substantial help. If we work hard at making this critical decision better, we are more likely to select a suitable partner. Our common image of our future home as a beautiful problem-solving relationship that would grow increasingly satisfying must set the stage. In this setting, we must study each other to determine if each is ready to enter such relationship.

During our reciprocal mate-selection study, we must have open communication that identifies us as having a growing friendship. Messages about the critical factors of affection and esteem enter naturally into our feelings about members of the opposite sex. Then exchange of mutual ideas must make possible some judgment of how well we might progress together in a relationship that is increasingly intimate. Our friendship must make us feel like we belong together without reservations. We must be aware that closeness and beauty in a home cannot grow in an environment of uncertainty and isolation.

Both prospective partners must realize the importance of giving and receiving trust and understanding, before considering union. After marriage, we must rely a great deal on mutual honesty and sincerity. Thus, in the selection of our mates, we must consider quite strongly all of our attributes that inspire mutual confidence. Common respect and admiration must be rated as more important than beauty of face or figure and cleverness of intellect or repartee. We must count the durability of our mutual faith as a most important element in our beautiful home.

Harmony between our personality characteristics needs careful appraisal, when we are choosing a marriage partner. Our compatibility should have some evaluation before the engagement; our special interests, attitudes and habits should have some tendency to fit together before the ceremony. What our two people expect to get out of the marriage should strongly

overlap. So, we must probe each other's traits for both strength and weakness of identification. Such study must give positive values to common tender reactions and negative values to destructive emotions like selfishness and quickness of temper. Our final choice should rest on the durability of our mutual warmth and compassion rather than some singled out sexual attraction.

Sexual allurements must not sweep us off of our feet without mutual understanding about realities of marriage. One part of our union consists of two people learning about sex together and much agreement is essential before marriage. Our willingness to carry out experimental sex acts should coincide. Orgasms may become increasingly pleasurable moments in our married lives, when we agree in advance on trying variable techniques. But, in our belief we must not allow our marital stability to rest solely on the tingle of the orgasm. Our devotion must not be vulnerable to brief separations, menstrual periods and other necessary interruptions in sexual performance.

Our principal objective in selecting a suitable partner for marriage should be to create a friendly and exciting cooperative. Home problems are numerous and most are complex though extraordinarily important, like deciding on the number of children. So, we must examine our prospective partners for dedication to total improvement. We want our mates to have matching eagerness for advancement in concert, as many of our family decisions are compromises. But, if we are experienced working on problems together, these adjustments may become fully automatic rather than one partner showing domination. Both male and female need an active belief in coping with difficulties to develop a strong cohesive force between them. Thus our tremendous satisfactions from warm family collaboration are usually the result of strategic decisions that are made prior to marriage.

Avoidance Of Lust For Power

Lust for power is an insidious cause of human afflictions and a serious block to our coping with many difficulties. Such craving distorts our personal outlook on life by turning our feelings inward. We are not likely to promote friendly cooperative efforts with this distorted ambition. Any attempt to dominate others undermines the problem-solving spirit of any home or community. If authority becomes lopsided, neither our homes or our communities can have equality of interaction and beau-

tiful cooperation.

Special privilege undermines unity in every level of our world structure. Our human organizations lose widespread contacts with reality, when they allow the development of aristocracy. Desire of a few for overriding control of wealth weakens our economy. As our control of the marketplace acquires a broader base, the stability of our economic life increases. Tyranny destroys democracy in all parts of our lives. Any great power in government tends to be abusive. Supremacy of a few world powers makes global relationships imperialistic. So, weak countries become dependent on powerful neighbors. Thus, in our belief, we must work to decrease subservience by lessening our power differential. Then, leadership is shorn of excessive authority by all of us assuming greater responsibilities and getting busy struggling for unity.

Our longing for dominance must not become like a powerful habit-forming drug that keeps us from assuming responsibilities. This lust is sometimes so pervading that we need a powerful diversion. Fortunately, our substituting a drive that gives still greater satisfactions offers one reasonable possibility for overcoming such craving. For this purpose, our belief changes the meaning of success from acquisition of power to accomplishment of improvements. In our preventive and remedial efforts, we must acquire greater understanding, we must develop greater skills and we must exert greater influence. So, we quickly grow to love the whole absorbing process. Our involvement in the struggle for human advancement increases with each step upward in which more people assume more authority. This struggle for progress in equality can bring us greater exhilaration than any feeling of superiority.

Taking Command of Things

An astonishing feature of our society is how rapidly new products sweep into the market place. Advertising media trumpet vast assortments of new things to extend and replace our old commodities. Constant display of these exhibits tends to give us an obsession for acquisition. If we develop any appreciable amount of greed, we may become slaves of possessions. Outside of our *Problem-Solving* belief, we are apt to adjust our lives to things rather than to adapt things to our lives. Whereas, inside of our belief, we accept the challenge to dominate our belongings. Here, acquisition as a drive must be a highly restrained practice. In fact, our purchases must largely depend

on their usefulness and effectiveness in helping us solve problems. Our things must enrich our lives and must not enslave us.

We have considerable difficulty avoiding traps set for us by even our most essential needs. Food, clothing, shelter, transportation and articles needed for health, well-being and jobs demand skillful choices. If we do not keep them under close supervision, these essentials can order us around like tyrants. While selecting what we are going to buy, we must consider suitability, cost, quality and impact on our environment. Food must be nutritious; clothes must be serviceable; housing must be affordable; conveyances must be practical. Also, we must make wise decisions about many other essentials. Every technique of our belief is necessary to help us make rational choices of these basic materials in our lives.

Less essential things may form still more subtle snares. These incidentals may be such valuable status symbols that we do not want to escape from our materialistic serfdom. We may need to join *Problem-Solving* before we are able to place reasonable limitations on the dispensable things that we buy. In our belief, we can tolerate few obsessions for nonessentials. We must make careful assessment of usefulness for all things that we allow on our budgets. Our studies must identify products with suitability for increasing our improvement skills or relieving our difficulties.

Our mastery of things is peculiarly dependent on our supervision of the market place. While dedicated to working on problems, we must get maximum information about our prospective purchases from unbiased and knowledgeable sources. Such knowledge must include valid estimations of relative performance for various products that we might consider buying. We must demand facts about effectiveness, durability and availability of repairs or replacements. Our efforts must work against any marketing of articles with built-in rapid obsolescence.

Other efforts must insure that various devices, thrust upon us by technology, are largely free from hazard. While we are working to overcome difficulties, we must see that our gadgets are safe to operate. Our things, which we handle or consume, must not be toxic or promoters of disease. Challenging technology to improve its protection of consumers is our substantial responsibility.

Before things can show proper respect for human beings, problem-solvers must take additional charge of technology. While manufacturers respond to our demands for things that are

useful and durable, they must be responsible to our environment. We must require that each industry manufactures our things with minimum ecological damage. In addition, even when our things are pleasing in design and practical, we must act to eliminate fabrication waste. Simple loss of valuable materials is bad enough, but when our rejected substances pollute the air, water or land, we are in more trouble. Reasonable selection of products calls for us to exert considerable control over our production operations.

Satisfactory authority over things is simply beyond our abilities. Our influence is much stronger, if we represent a group of consumers in our demands. Thus, effective control of manufacturers requires our operating from the strength of large coordinated consumer organizations. Pressure of consumer demand on technology increases as some high power of the numbers who express urgency for improvement. Our control action must also rest on information from careful studies of production quality and collective analysis of consumer experience. In addition, industry needs prods by government to insure that this quality meets our demands. Here, consumer organizations are necessary for pressuring government to set up manufacturing standards. From the strength of our coordinated efforts on improvements, we can get considerable pleasure taking command of things.

In our belief, we must put our desires for fancy possessions into subordinate places with respect to cultural and remedial services. We do not need all of that junk in our closets and garages and we had better admit the truth before we become inundated. In particular, we must participate in inspirational and cultural action, instead of just relaxing in the possession of things. Our concentration must focus on the delights of reading, writing, music, dance, thinking and learning how to do many things. Then, we are more likely to buy tools that are necessary for our activities than things just for our possession. Our cultural accomplishments and inspirational creativity can produce pleasures that prevent the serfdom of craving for things.

Relief From Financial Frustrations

We usually cannot solve all of our real and imaginary money problems without being fortunate financial wizards. Our incomes never seem quite large enough at any time; emergencies often create additional monetary demands; worthy causes frequently ask for special contributions. But, in *Problem-Solving*

we get relief from most financial frustrations by struggling to improve our art of balancing income and outgo. This juggling process involves the complication of finding jobs and adopting reasonable life styles. Along with this, we build excitement into our lives by accepting the challenge of making expenses fit inside of earnings.

Some of our fascinations in life come through our attempts to enlarge our family incomes. Most of these financial games consist of increasing our money coming in, while observing highly serviceable practices. Then, our belief demands that we expand our skill at making improvements and this achievement adds to our competence. Next, we must struggle to raise the level of our responsibilities and we can expect our incomes to advance as a result. Getting training for a better job can be fun and rewarding; hunting for a better job can be instructive and enlightening. Often both husband and wife must work to enlarge their family earnings. Occasionally a single bread-winner must hold down two jobs. In any case, we must plan on earning more by making greater contributions to our economy.

Our financial frustrations do not obtain relief until we learn the secret of limiting family expenditures. In our belief, our things, which are beyond those needed for minimum comfort and maximum coping with difficulties, are of secondary importance. Our happiness and deepest pleasures lie in our efforts on improvements and our inspiration for further advance. At least, satisfactions in our living bear little relationship to numbers and values of our luxuries. Our rule is that we must start buying things with maximum usefulness and work down the utility scale with our expenditures. We play the serious game of making ends meet and seldom letting family expenses exceed income.

Problem-solvers have real challenges battling food costs. Our cutting these outlays usually requires that we eat at home most of the time. Preparation and cooking our food, even with kitchen clean up, involves minimum expense and fun time at home. Our intelligent selection of groceries can make our home foods more nutritious as well as less expensive. But, such operation calls for manuals that provide information about vitamin, protein and mineral contents of groceries that we buy. Naturally, we must shop carefully for high quality at reasonable price. Then, our food preparation must conserve nutrients by not over-cooking our food. Also, we adjust quality and quantity of food eaten with benefit to pocketbook, health and

figure.

While struggling with improvements, we must make our housing simpler, more useful and less expensive. Considerable study is usually essential to handle this problem wisely. One trick that is available here is to fix up dwellings by clever additions and modernizations. Those of us in the white majority often have options of living in reasonable cost but reputable districts. But, if we are in some minority group, we must be very skillful to make our housing both acceptable and inexpensive. Trapped in slums, our ingenuity may be taxed greatly to provide us with pleasant dwellings.

Buying other human essentials offers many opportunities for cutting costs. As clever shoppers, we can lower clothes costs by resisting frequent changes in styles. Also, we can buy artistic clothes and shun the atrocious. Decreasing our bills for heat and other public utilities is usually feasible by exercising restraints. Having more economical transportation is an important part of our decreasing expenses. We must work hard to keep down the costs of travel back and forth to work, market and meetings. Insurance can be relatively inexpensive; recreation can be reasonably economical. If we have expensive emergencies, we must borrow money from institutions where credit is reasonable.

Few frustrations are more common to all of us than those created by world financial difficulties. As problem-solvers our responsibilities extend far out into this area. We must pressure governments into monetary policies that help all of us make ends meet. Here, our objectives must include leveling out boom and bust in our economic cycles. One of our jobs is to learn what inflation is all about and to work for low rates of price increases. Another is to discover what causes recession and to exert efforts toward preventing this type of business collapse. Our financial problems can become highly exciting, when we help each other struggle for economic stability.

Companionship For The Lonely

While working on our problems, we do not realize that loneliness may be the most appalling human emotional state. Bleakness may hit anyone, children, young adults, married couples and the elderly. Countless uninvolved human beings suffer from this breakdown in communications. No one sends us friendly messages; no one listens to our conversation. But, in the middle of our struggle for improvements we live in an extraordinary atmosphere of good fellowship. We have friendly

human bonds that banish desolation, when our lives accent communicating, understanding, planning and struggling with problems.

Intrinsic features of our belief include the fascination that develops with communication. Dynamic association with others, while our life experiments are in progress, eliminates any painful isolation. We must engage in reading, writing and talking during our involvement in improvements. Few activities take our minds off of our loneliness as completely as reading what others say about our problems. Our interest in life can expand considerably, while we take down notes on issues and write letters to public officials. Acquiring remedial information through informal discussion with those having similar difficulties builds communication. Human bonds grow stronger, as we review objectives, analyze purposes and work on problems together.

Our trying to understand probable causes and possible cures for difficulties builds cohesion, which provides constant companionship. As we search for insight, our belief is particularly effective in dispelling loneliness. During our coping with difficulties, we acquire skill in listening to human complaints and build mutual understanding. At the same time, we learn to care about people and grasp the nature of their troubles. Our feelings turn outward rather than inward and we easily love everyone with whom we are friendly. This stimulation of our expanding comprehension stops any tendency toward withdrawal.

In our belief, we are too busy to feel lonely even when we are alone. During preparation for involvement in improvements, we need time to ourselves for contemplation and planning. Much of our inner thoughts require mental activity in a quiet atmosphere. Our lives and each day in our lives need beautiful designs. So, while we are mapping out our courses of action, our mental activities actually provide ample companionship. Our struggling with what to do about our difficulties can never be identified with painful isolation.

When we get our improvements underway, we spontaneously surmount loneliness through self expression. Any secluded feeling departs once we are involved in progressive action on problems. Even when we simply try to relieve our personal troubles, we may not feel alone. Particularly, if we express our creativity in arts, sciences or many other fields, we receive considerable self-invigoration. Then, companionship with others is quite stimulating, while we help them solve their problems or aid

society in its struggle for progress. Kindred efforts of those who join forces to overcome difficulties create a powerful uniting force. So, any growth in cooperation binds us tightly together, while we work on our mutual improvements.

Cynicism Becomes Optimism

Our persistent efforts for human advancement create deep feelings of optimism. With our dedication, we not only want conditions to get better; we are going to work and make certain that they will improve. Outside of our belief, a common reaction to unsuccessful preventive or remedial action is a great distrust of all such efforts. Sneering disbelief in human advancement is easy for us to develop. Whenever disillusionment appears, gloomy cynics spring up all over the place. Without dedication to improvements, our lives can become monuments to disappointment. But, when we are enveloped in working on difficulties, cynicism can never arise.

Our reasonable expectations and eagerness to learn how things are going to turn out eliminate the bitterness of pessimism. We simply do not anticipate that our efforts will make great immediate achievements. In our belief, any failure in improving efforts just gives us a fresh chance to learn how to apply a better remedy. We think that our personal conditions can always be improved; we know that our institutions will always have weaknesses that challenge us to strengthen them. Hope really springs eternal in us, when we are dedicated to discovering how to make improvements.

Examples of our rising above cynicism, while working on problems, can form a list as long as we want to make it. Many outsiders seem to lack compassion and our efforts to instill this emotion may not be very successful. Despite this frustration, we must press forward to develop greater warmth in our human contacts. Education often does little to teach us how to solve some of our most serious problems and revising this instruction, until it is more practical, baffles us. Still, undaunted in our efforts to make progress, we struggle to make our personal training more useful.

In our belief, we do much to dispel gloom by striving to make everyone participate in politics and economics. Corruption in government makes much of our authority less than democratic and we have only started to apply remedies. Resolutely we must keep on the job of preventing politicians from purchasing public office. Also, our overall economy needs stra-

tegic controls and our attempts to achieve reasonable business stability have only had minor success. Undiscouraged, we must search unceasingly for more effective devices to improve the distribution of goods and services. With our help, we can hope that society will become more responsive to the mass of people.

Our actions in coping with difficulties help us regard all survival problems with optimism. Our natural and human resources are undergoing exhaustion and we have only started to apply relief. Exploiting other countries' available resources is more popular. But, to counteract this exhaustion, we must work strongly to eliminate waste and recycle an increasing mass of our discarded materials. Demand for essentials for human life grows until it stretches the capacity of earth to produce and people are scarcely aware of this dilemma. Therefore, one of our jobs is to awaken human beings to this serious peril of depletion. To make matters worse, world population seems to be out of control and not many of us are willing to realize this critical possibility. In response to such great need to make the earth a better place to live, we must struggle to promote the belief that our earth can be a great place to live.

Boredom Brightens Up

Evidence that most lives, outside of our belief, are deadly dull and uninteresting lies in the massive human attempts to escape realities. At the same time, when *Problem-Solving* moves into our daily lives, our feelings of "getting no place" must depart completely. Our improving activities leave no room for apathy or accompanying depression; our doing our many jobs better creates expanding exhilaration. In our belief, we must lose any slightest tendency to vegetate in a stupor, although we may have carried out our daily operations thousands of times before.

In routine parts of our lives, passion for improvement may be our only answer to futility. At least, if we are bored, we ought to give problem-solving a trial to see how it works. Each morning we must strive to get a more energetic start for the day. Also, we must greet other members of our families more pleasantly than usual. Our beautiful emotions show up with greater force. Then, other early morning preliminaries must provide more complete family cooperation than is our custom.

For those of us who have careers, our applying tests of progress to our family situations is important before our departure for work. Such evaluation is what our farewell ceremony is

all about. When saying "good bye," we gauge every family sensation to determine if attitudes and relationships are improving. If we detect anything in our family fellowship that can be enriched, we plan on taking invigorating measures promptly.

Before starting on our drive to work, we determine to be more careful, courteous, law-abiding and observing of every safety rule. We start on time, eliminating the pressure to speed on the highways. Special orientation relieves tensions or worries that might divert us from the most skillful operation of our vehicles. Prior to departure we refrain from use of either mind-altering drugs or alcoholic depressants; during our manipulation of our cars we avoid clutching a cigarette in one hand as a gesture of disdain for alertness. By vigilant planning, our cars are in condition to be free from mechanical failure. In spite of all precautions, the safety of our driving is constantly open to inspired improvement.

Approaching our work is the time for us to build up the eagerness demanded by our belief. We reflect constructively about our job situations and plan increased accomplishments. Arrival ceremonies include friendly contacts to improve relationships with bosses, associates and assistants. On the job, we tackle responsibilities with increased enthusiasm. Our attitude is one of expanded cooperation; our challenge is to introduce enhanced effectiveness into our work. We become more efficient, turn out better products, give customers better service or solve more problems. At the end of the day, we carry out last minute assessments of accomplishments and feelings within our work group. Here, we plan programs of improved activities and concerns for the following day.

Our journey homeward must involve even greater care than before. Traffic may be thicker, tensions greater and tempers shorter. Then, others may be under the influence of liquid depressant. We must train ourselves to treat each encounter with afterwork traffic as a serious chain of difficult logistic problems. Safety does not allow one careless decision.

Arrival at home must be the "great awakening" with pleasure, instead of the "great let-down" with depressant. We capture the stage with our entrance. We learn about home activities, give praise for accomplishments and assist in relieving immediate difficulties. Our jobs that everyone works on together build a growing cohesive force. Then, the evening meal is a time when family relationships can grow more friendly and cooperation

can develop a finer edge. In our belief, we must use these exciting opportunities to expand our help wherever need exists.

When home is relatively quiet, we participate in many kinds of personal improvements. This time must be available for discovering what is going on in the world. These private studies must help us understand as many human problems as possible. For this purpose, we attend meetings of organizations concerned with advancing our society. Then, we exert increasing political influence to improve our human situation. In addition, during this part of the day we must keep up artistic, mental and physical skills. Much of human advancement may depend on how we utilize our spare time.

Those of us with careers can escape boredom more completely at the end of our day of working on difficulties. One specialty must be our daily evaluation of how our efforts produced improvements. Before falling asleep we must review occurrences of the day to decide what difficulties require more attention to achieve advancement. We resolve to concentrate on work where it might produce more uniform human progress. Exhilarating plans for the following day frequently evolve from these critical judgments.

Our belief allows no discrimination in who can dedicate themselves to coping with difficulties. Those of us who are homemakers tend to have as static an existence as those of us with careers. We often have maximum need for our belief that provides enlarging horizons. At least, our homes can always be better cooperatives, when our skills become greater at helping others with problems. Where our homemaking is warmer and struggling to be more effective, our marriages are stronger unions. Also, children show more astounding possibilities, when trained for an expanding future by mothers with skill at working on problems. Thus, our determination to do a better job in the home erases drabness and dullness even where it may have been for a long time.

Animated by our belief, homemakers naturally awaken with minds skipping over programs for the day. Arising, we prepare better relished morning meals and subtly manage to persuade our family to eat more adequate amounts of needed nutrients. Next, comes our delicate strategy of getting caremaker and children off to work and school on time and in good mood. Fascinating opportunities for doing our jobs better occur thick and fast in the morning.

During our daily farewell ceremonies we have excellent

chances to detect discords of misunderstandings. With husbands, our tests determine if relationships are improving. With children, we check on homework, attempt to uncover special difficulties and search for means that might lessen tensions. After our family departures, we plan to correct any suspected problems with delightful surprises or improved feelings. Actively we determine to become more expert at inter-family communication.

As homemakers with faith in improvements, we cannot be bored if preschool children are in our families. Enriching our essential home routines keeps us quite busy. Our attention must focus strongly on providing our children with increasingly nutritious food. This action must include teaching them to like the foods that are most essential. We must devote considerable time preventing diseases and accidents. Here, our efforts should make maximum attempts to teach children to take care of themselves. One substantial obligation is supervise play and bodily exercise, to instill the art of safety and the exhilaration of physical skills. In these activities we can never have a dull moment.

Our responsibilities for insuring adequate mental training for our young children are enormous. Small youngsters have minds that cry for opportunities to learn. Considerable evidence suggests that, if our development of a new capability is thwarted initially, our minds may fail to acquire this skill. Then, openness to different types of learning appears at different stages in our early years. Thus, homemakers must recognize these stages and seize each appropriate chance to help children when they are receptive. If we measure up to these obligations to nurture our youngster's minds, any feeling of boredom must disappear.

Beautiful feelings develop faster in children, when warmth has an early start. As homemakers, we can have a great deal of excitement helping to build tenderness and inspiration into our babies. Our mother love must be highly expressive, so that babies can get all kinds of massages of deep affection. Our hugging, caressing, fondling, talking to and feasting our eyes on our babies create returned expressions of compassion. Thus, we cannot suffer from any monotony, if we devote ample efforts in these exhilarating emotional essentials.

Where no preschool children commit us to responsibilities, we still have little trouble remaining busy during our day of improvements. As we make our houses neat, wash clothes and condition each home area, our aim must be to save time for

other activities. Here, efficiency must become quite an important objective. Then, we plan on using children to do more jobs that they can carry out to shorten our routines. We do not allow drudgery to creep in to fill our day, because nearly every motion becomes a problem.

With our regular work under control, we are ready for special delights for women in or out of the home. Development of our talents in sewing, music, writing, painting and other artistic skills open up to us. These cultural avocations must receive devotion to allow growth in creative expression. Also, we participate in organizations in which we can exert influence to improve our society. In particular, schools in our area must receive our interest and support. Our struggles to solve all sorts of problems create excitement, arouse expectations of progress and stimulate considerable self confidence.

As our children come home from school, we begin to play our most important homemaker role. Improvement in personal relationship with each child is our most delightful challenge. Our interaction must include listening, giving understanding and providing sympathy. We must offer help, if our assistance appears to be useful and acceptable. Of equal importance, we must engineer and supervise projects for continuing education after school. Such projects include recreation, practice on musical instruments and various jobs. These fascinating activities require much alertness and concentration on promoting child participation in human affairs.

When husbands arrive home, our tests of family cooperation expand considerably. At this time, as everyone joins in a family-wide effort to solve problems, teamwork really shows up. We have warm communication with husbands, prepare an evening meal and set our best example of friendliness during this family get together. Such times are highly rewarding, as we grasp every chance to survey our family situations for ways to relieve more difficulties.

After evening clean up time, our family activities proceed on an improving basis. Our special chores and outside meetings may occupy some time. Still, we do a better job of checking on going and coming of children and keeping track of homework. Also, our relationship with husband is enriched with family councils, shared activities and sex. Finally, we decide where to place greater effort toward making our homes run more smoothly. Such program of working on problems leaves few intervals for boredom.

Our belief in working on problems may be quite exciting before we approach maturity. If we accept many youthful responsibilities, our spirit can make our lives pulsate with stimulating purpose. Outside of our belief, lives may seem to be in a treadmill. Body, mind and emotions may grow to be quite confused in a world that changes with remarkable swiftness. Many of us may hold on to childish "I must win" or "I can't do it" obsessions. But, when we concentrate on making improvements, the terrible dullness of lack of purpose must disappear. Living to solve problems may be the only way out of our frustrations of growing up.

If we acquire dedication to improvements during our school years, each morning is an embarkation on a thrilling adventure. Our friendly communication with all whom we contact forms a standard before school practice. Difference in our performance resulting from our belief shows up in the greater warmth of feelings that we generate among associates.

Each day, we arrive at school stimulated with maximum enthusiasm for learning how to work problems. Preparation for each subject is as thorough as time permits; determination to gain knowledge is as firm as our increasing inspiration allows; hope for new understanding is as strong as our expanding imaginations can stretch. We may realize that the material offered for us to master might be more practical. Our school may even place obstacles in the way of our greatest motivation. Still, we refuse to be discouraged by the system. Our attitudes must indicate that our learning process is a race against time and we are eager to enter the race.

When our thirst for knowledge and understanding is great enough, we can escape boredom even where instruction is poorest. Dedicated to improvements, we can even survive being graded down. Really the initiative for drive to achieve learning is up to us. Our fun and satisfaction in working problems unfolds as we acquire this skill. School becomes an exciting place, as we take advantage of every opportunity to discover something useful.

After school activities that provide important changes for growth remove our last vestige of boredom. To enrich our learning experiences we participate in music, dance, drama or sports that demand that we show improvement. Our objective is to acquire increasing skill and fundamental knowledge of all human accomplishments. If we can get after school jobs, we can get acquainted with still more of life's realities. Our first work

experience gives us special opportunities to compete with self. Also, wherever we are, we can develop greater sensitivity to human difficulties. We can grasp the feeling of great personal satisfaction that arises through doing jobs better.

Courage Instead Of Fears And Anxieties

Reasonable concerns about our deepest interests must arise in all of us quite naturally. Unfortunately, many of us live with acute apprehensions that may lead to prolonged brooding. With lack of confidence in ourselves and mistrust of others, we may develop neurotic tensions and a measure of depression. In contrast, our belief changes our lives from susceptibility to developing anxieties over to where we display remarkable courage. Such extraordinary transformation lies in our strong attitudes and bold objectives. Our new outlook focuses critically on what is occurring around us and the exciting possibilities for conditions becoming better. Thus, we submerge our fears in our passion for improvements.

While we are actively exploring how to advance our world, we are less frightened by abrupt occurrences. Actually, we may be keyed-up and alert to detect difficulties that develop rapidly. Feelings that arise quite promptly produce little shock and momentary loud noises create little terror. Our occupation with our activities makes us more curious than frightened when sudden motion or sound disturbs our world.

Happenings that we do not foresee have little tendency to arouse our apprehensions. Our experiencing the unexpected is a chance to learn and not an encounter that creates greater fear. In our belief, we are always making experimental approaches to problems and our expectations from the results are far from rigid. Functional support for bravery is quite strong in our belief, because we face absolute reality.

Unusual sights and motions are less terrifying, while we are learning to appreciate all kinds of experiences. We can look down into the Grand Canyon with aplomb, if we are interested in earth erosion and are curious about rock strata. Our ride in an elevator becomes simply a faster way to get from one floor to another rather than a horrifying trauma. Our take-off in an airplane can become just the start of another fast trip instead of an emotional upset. When we have more unusual experiences during our working on problems, we may feel more relaxation when another rare occurrence comes along.

As we struggle to understand how the Universe works, our

fears seem to disappear about most natural phenomena. At least, wonders of nature that are fairly common do not send us into a panic. When disagreeable insects appear, we avoid, repel or destroy them instead of exhibiting consternation. We treat most wild life with respect and help preserve species instead of regarding them with fear and distrust. As our fascination with nature expands, wonders like thunder and lightning become simply attractive natural occurrences. Even tornados and earthquakes are marvels from which we try to protect ourselves rather than sources of great terror. Comprehension of what is going on around us goes a long way to dispel fear. 102

While helping people with their problems, our alarm decreases over the effects of crime on ourselves and expands as to its effects on society. We worry less about burglars breaking into our houses, as we work to better the status of the disadvantaged. With our deep social concerns, any losses from theft mainly leave us solicitous about the origin of the trouble and the restoration of the thief to society. When we are engaged in programs of rehabilitation, we are less afraid that criminals will harm us.

Fear of unemployment creates less emotional pressure for those busy relieving difficulties. When we are constantly looking for more satisfactions from our everyday toil, loss of job is less traumatic. We may welcome the chance to change our work to some activity that presents greater challenges. Our confidence in being able to get into more interesting occupations erases some painful apprehensions.

If we want to avoid the depression of serious sickness, we had better become dedicated problem-solvers. Here, we have a devotion to keeping fit. Then, sickness is less disturbing when we are active in learning how to prevent or relieve our physical difficulties. Emotional stress of illness relaxes as we take experimental steps to overcome it. We can almost forget about our not feeling well, if we get involved in working on health problems that concern everyone.

When concerned with relieving human difficulties, we accept inevitable occurrences like death without dread. Fear of death has modified mystic beliefs for millenia, possibly because much of life was full of fear. But, as we struggle to make our lives more useful, death does not seem so dreadful. Our inevitable passing-out-of-the-picture just challenges us to work faster and harder.

Our courage does not develop by chance in our belief. We are

too active physically, mentally and emotionally in a positive way to become overly anxious. We may have only one fear left, that we might accidentally injure some other human being. Our concerns are more for others than for self, for society than prestige and for humanity than for personal fortune. Then, our experiences build fearless persistence and patience rather than anxious stresses and depression.

Reconciliation For Resentful 103

In our highly competitive world, many of us become angry quite easily. We lose our tempers over simple embarrassment and mistreatment, real or alleged. When we are thwarted in any ambition, we get quite annoyed at the opposition and build up our enemies' list. If we feel that another society has abused ours, irritation throughout our nation can become great. Then, we anticipate resentments and prepare for retaliation in advance, so international bad feelings can be devastating. Presumably, we discharge our anger by expressing it and tie up our emotions in knots by restraining ourselves. Still, we must have some limit to this resentful release of animosities.

Fortunately in our belief, our attitudes and occupations tend to inhibit resentments. In general, our efforts require maximum objectivity and minimum personal vanity. We anticipate opposition; we expect frustrations; we foresee compromises; we are not easily insulted. Then, with our determination to make improvements, our disagreements greatly stimulate thought and scarcely build up strong animosities. Differences of opinion over issues tend to develop pleasant arguments instead of bitter and resentful feelings.

While working on difficulties, we need to separate persons from their unpleasant actions or stands. Here, we must direct our anger toward what others do or their attitudes rather than the persons themselves. This separation of people who behave objectionably from their unpleasant behavior helps test the firmness of our belief. While we put actions instead of people down, plans of what need to be done become clearer. Our emotions escape distortion, as we direct them toward what we really dislike.

Constructive action to create improvements is highly preventive of hostile emotions. While we are working to help people, they are quite prone to be friendly, even if the situation is resentful. One of our greatest challenges is to learn how to lower the over-all level of human hostility. Here, our role may

be to submit questions and offer analyses that might turn-off wrath. Then, we must attempt to relax tensions with apologetic remarks. Our efforts must also concentrate on injecting a measure of good humor into arguments. Achieving reconciliation between opposing views gives any dedicated problem-solver a remarkable feeling of satisfaction.

Non-Violent Action

Our belief obliterates the halo that persists around violence as a means for settling human differences. Many people accept the vengeful assault of others who do them harm as inevitable and even as deserving of glory in retaliation. But, when we dedicate ourselves to human improvements, we take a stand against this severe action, except to establish law and order. We realize that vengeful force tries to punish the person instead of the undesirable act and is practically futile. Also, our self-punitive aggressions against persons fail to treat origins of problems and may make solutions more difficult.

Our non-violent actions start with efforts to prevent serious confrontations in our communities. For this purpose, we attempt to get static conditions going upward for everyone. Each origin of human frustration must receive increasing remedial treatment. Our objectives must include enrichment of human emotions, less discrimination against minority groups, greater competence at finding grievances, better training and opportunities for jobs and more skill in political action. While we work on these objectives, we may break many chains of events that might lead to violence.

Our response to violent personal affront must be mild and conciliatory. Naturally, we renounce the personal honor doctrine and we do not retaliate to injure our antagonist. Our training in making improvements prevents us from striking back. Also, charges of cowardice do not enter our consideration, as any threat of injury is simply a difficulty to overcome by reconciliation.

If we protest against unjust treatment or unacceptable social policy, our action must not provoke violence. Peaceful demonstrations have served as valuable means for complaining to authorities for decades. Still, these large displays of our disapproval create delicate situations. Thus, to prevent disorder, all ingredients of social explosion must be absent from our mass objection. We organize our demonstrations very carefully with every thought and plan turned toward avoiding violence. Meet-

ings and actions are legal; violent people are excluded; processions are quiet and free from emotional turmoil. We take care that developments do not result in personal injury or destruction of property.

While occupied with improvements, we must struggle against violence in the world scene, with accent on prevention. We must not sit idly by, thinking that our present peaceful efforts are enough. At present, we are unable to appeal to a world authority that has the power to halt an aggressor. Thus, we really need world law and order instead of our contemporary international chaos. Then, each nation might not be all on its own, at the mercy of a stronger neighbor or a bunch of guerrillas. What we must struggle for quite desperately is a world that has a peace that gets more peaceful.

CHAPTER 10

GREATER SATISFACTIONS AS WE GROW OLDER

How can our belief in Problem-Solving retain its strength for the whole of our lives? 106

In our later years, we must continue our work on problems and shun the common practice of restricting our active lives. Poor health may decrease certain opportunities for involvement; decreased physical endurance may change the work in which we can participate; diminished short time memory may shift our interests; uncertainty about our own financial future may reduce our contributions. Still, we must struggle to overcome these difficulties, so we can proceed with our main improvements. Any needed diversion must not block our progress for long. We must simply transfer our efforts to other difficulties, where the possibilities for greater progress may be more exciting. When we persist in working for improvements, our lives retain their vigor as long as we live.

Expanded Experimental Living

As we grow older, we must expand our dedication to experimental living, even though our problems get tougher. Our struggle must include continuous attempts to extend the creativity of youth and to surmount the degeneration of old age. While we steadily fill our lives with activities, we acquire increasing skills through greater practice in making improvements. Many opportunities for participation in human involvement increase after retirement. And, we are the ones to volunteer services as many organizations need our help. Clear up to the time when mind and body fail, we can carry out more experiments with increasing determination.

Part of the driving force for our increased participation in improvements arises from our assuming greater responsibility. After all, we have invested considerable effort in human advancement and naturally want to see this work continue. With passage of time, our attitudes become less pretentious; with growth in devotion, our coping with difficulties becomes more resolute. Our feeling that we can always do better stimulates us to engage in greater endeavors indefinitely. 107

One of the most interesting features about experimental living centers around our broadening the base of our action on problems. Our picture of world troubles gets larger, the details of our view become more apparent and their lines of separation show up more clearly. We acquire more knowledge through greater experience coping with a variety of difficulties; we learn to understand problems better through more speculation about causes and cures. Thus, our search for principles tends to expand over the years, as our efforts delve more broadly into improving human conditions.

As we continue to work on problems longer, we can probe deeper into each difficulty. Then, practically all of our perplexities become more complex, while we search longer for more detailed understanding. Apparently, we can always discover finer subdivisions for any process of the Universe. So, as time passes, we can usually make more careful analyses of human fundamentals, particularly about thoughts and feelings. Any attention to these finer details that we pursue as we grow older is highly pleasurable.

When we are more experienced problem-solvers, we are often better able to plan long range attacks on problems. Our relative values may be clearer; our projection efforts may be more accurate. We are usually in a better position to see the necessity for careful planning in order to continue effective work. Our progress is not automatic and we often need better projections of understanding and more background action before our improvements can expand. Thus advice about procedures for relieving troubles, which we can get from old timers in our belief, are frequently of great value.

Greater Relief From Worrisome Tensions

Many studies of aging processes suggest that worrisome tensions are primary causes of shortened lives. Fortunately, we can achieve considerable relief from these painful stresses through emotional relaxation during working on problems. When a diffi-

culty appears, we are ready for it. Our confidence that improvements are possible and our searches for understanding keep us calm. Then, our simple determination to do something about our troubles helps to loosen tense feelings.

While we retain our involvement in coping with difficulties, conditions of unrest that cause anxieties tend to disappear. These troubles simply give us opportunities to exercise our remedial skills and do not harass us. When difficulties arise, we get busy on them and forget to worry. This action casts off nervous tensions, because performance can overcome painful concerns at any age.

Our communication in later years, during our struggle with difficulties, helps us lose the remnants of our anxieties. We know how to carry on friendly conversations and our merely describing the nature of our troubles relieves tensions. In the course of analyzing human problems more clearly to others, we develop better human contacts. Any improved community that we can establish through common interests erases more of our stresses. Our worries transform themselves into greater harmony, as we build up more friendly identity over the years.

Our own work on problems creates maximum enthusiasm and optimism and minimum concerns and nervousness. We can also receive great pleasure from hearing about the progress of others. From these improvements, we acquire animation instead of frustration and inspiration rather than dejection. All enrichment that we can learn about extends our lives and makes our living more vital.

General Struggle To Improve Our Health

Our bodily discomforts tend to get worse as we grow older. Yet, working on physical problems has many exciting ways of helping with our aches and pains. During our efforts to extend our good health over longer lengths of our lives, we must act essentially as our own medical practitioner. Naturally, we must use our physicians and surgeons as occasional consultants and for direct help in emergencies. Still, our need for assuming our own health responsibilities lies in the importance of improving our well-being by prevention methods. Cleanliness and avoidance of contamination require our own careful attention. We must also use immunization, wherever this preventive means is effective, and we are the ones to make these discoveries. Our principal reason for looking after our own physical vitality lies in our bodies responding differently to various health practices.

Improvement in our muscle condition requires regular exercise, particularly to keep our most important motor tissues strong. Our hearts that send blood flowing around through our circulatory systems are of crucial importance. These self-acting blood pumps keep pumping throughout our lives. But, such pulsating muscular organs develop greater strength and flexibility, if we challenge them regularly to more vigorous action. Thus, as we grow older, we must continue our regular energetic efforts that our hearts may remain strong. Our maintaining the vigor of this vital organ is a tremendous advantage for living a long healthy life.

Our lungs together with diaphragms are breathing air continuously in and out of the lobes, thus aerating our vital blood. Still, relatively few of us learn to breath well enough that lungs and diaphragms have strength up to their potential. But, with our dedication, we must attend to developing our breathing muscles and trying to preserve their strength as long as possible. We have one pleasant possibility, as singing provides considerable practice in the use of lungs and diaphragm and offers a delightful opportunity to keep these muscles in condition. Even so, we would do well to carry out our breathing exercises with all of our vigorous movements.

Our bodily structures center around spinal columns, which consist of the vertebra that articulate under control of muscles. Then, our spinal cords pass down through conductors in these vertebra, carrying very important tissues that need special protection. Thus, we must keep these back muscles in condition to prevent deterioration of functions that send messages through our spinal cords. Any consistent motion of stretching or bending our bodies may help strengthen these valuable controls. Simply learning to stand up straight may be highly advantageous for training these muscles. We must keep working on such exercises, because the seriousness of our back degeneration may be very difficult to discover.

Consistent exercise of arms and hands is essential for our overall muscle conditioning. These appendages need lots of use and strengthening to provide us with continuing manual skills. Even when we have the tendency to keep arms and hands fit, we must provide such muscles with special discipline at regular intervals to maintain capability.

One of our best chances of keeping up our bodily vigor is through the exertion of legs and feet. These appendages support our bodies and have critical functions of making us mobile.

Thus, our use of legs and feet moves our whole bodies and accomplishes considerable mechanical work. So, we can get our most vigorous exercise by walking, running and dancing, which strengthens heart and lungs as well as legs and feet. We have the substantial responsibility of keeping legs and feet in condition as long as possible.

What we put into our chemical-mechanical machines must be a factor in improving at least our physical health. We have an astonishing list of highly essential materials that must be consumed in our food. Even the amounts of these requisites are of considerable importance in what we eat. Our vital proteins, carbohydrates, fats, minerals, vitamins and other essentials may be present in our diets. We get these things, when we eat an assortment of meats, grains, fruits, vegetables and milk products. But, the amounts of some individual constituents may not be present to satisfy our needs. Thus, we might want to add supplements to what we eat, which might include various vitamins, selected minerals and other deficient items. 110

Most of us have food materials that we might need to avoid. Among these substances are proteins that give us allergic reactions. Then, we might decrease the amount of intake for sugar and salt, while we grow more restrained in our consumption of preservatives and flavor additives. We dare not allow flavor to lead us astray and taste-of-food is a reaction of our sense organs that can be trained. We can learn to like highly nutritious meals, even when their taste does not appeal to us instantly.

Special Experiments With Diets

If we are susceptible to colds and flu, our dietary attempts to prevent such discomforts can be interesting and satisfying. We might first launch a study to determine the helpful effects of Vitamin C on these viral difficulties. Our objective would be to discover a diet, high in Vitamin C, that decreases the frequency and severity of our respiratory ailments. During the course of our experiment, we should raise the intake level for other vitamins above recommended amounts. Then, we might start our study by taking two grams of Vitamin C each day, in four equal portions, as a supplement. If we still have colds and flu during our first test over a two year period, we might raise our intake. Also, when an attack threatens, we should apply our remedy locally to throat by holding a tablet in the mouth and to nose by breathing the powder. Many of us, who are highly susceptible to these diseases, have gone for eight years without a

fever, while on this type of experimental diet.

We must persist in finding food supplements that will lessen our respiratory difficulties. We might even try antihistamines as a means for preventing allergic reactions. Then, our explorations should study the beneficial effects of calcium, magnesium and Vitamin D in a broad approach to the problem. Also, we should build up our Vitamin B intake along with eating lots of lightly cooked vegetables. Our diets might require modification to include a higher proportion of fruits and vegetables, before we find our anti-cold formula. In the meantime, we have considerable enjoyment in our experiments to find respiratory relief.

Our heart troubles may appear so unexpectedly and with such lethal consequences that they deserve our best early dietary help. Right now is the time for us to start strengthening our tubular systems that carry blood around our bodies. If we receive authoritative information about anything that we consume being hazardous, we must stop consuming it. If we hear about an effective preventative, we must test it. Fortunately, we have qualitative tests that enable us to estimate the condition of our blood carrier tubes. 111

Our simple tests of endurance for our circulatory systems may be useful but far from conclusive. These indicators include our general sensation of being energetic or tired. Here, we also have resistance to blackening of bruises, quickness of reduction in swelling and prompt wound healing. In addition, we can take our pulse rate before and after doing a standard piece of hard work, like mowing the lawn. During this work, we can hope for only a gradual increase of a few pulse beats per minute with time. Then, in many places blood pressure measurements are available free of charge. So, we may not need to run to our family physician for every heart conditioning test.

Some real adventures are possible, when we study possible benefits of supplemental Vitamin E intake on our heart endurance. For the base of our test work, we must adopt a standard diet containing normal amounts of proteins, carbohydrates, fats and vitamins. For the action of our experiment, we select a physically exhausting task that makes us stop to rest fairly often, when we eat our standard diet. Also, our increase in pulse rate while carrying out our task is a necessary observation. Then, we adopt several additional test periods and in successive periods take increasing amounts of Vitamin E daily, like 200, 400 and 800 milligrams. For each vitamin intake, we carry out our exhausting task, while we observe number of times that we

stop to rest and our increase in pulse rate. Our minimum conditioning requirements of Vitamin E are usually clear from our increased endurance.

We learn from literature articles that obstructive deposits in our blood vessels are largely cholesterol and that part of this material enters our bodies along with animal fats of our foods. Thus, we get the suggestion that substitution of polyunsaturated oils for animal fats will retard our heart trouble. But, we have difficulty evaluating this means for improving our circulatory system. Still, with clinical analyses we can determine if eating a higher proportion of vegetable oils to animal fats will decrease the concentration of harmful cholesterol in our blood. With this information, we may be able to set the intake of one ingredient in our dietary pattern for life. 112

Our human hearts are complicated systems of muscles, nerves and flowing blood. So, we can run many other experiments in attempts to improve their conditions. To keep the muscle fit, we can build-up the concentration of calcium and magnesium in our food until these tissues perform well throughout our bodies. As a means for helping the coronary nerves, we can supply them with sufficient potassium to do their jobs. Then, we can decrease the amount of sodium in our diets to condition our pumped fluid. Animation of our whole bodies is a great stimulus for our hearts.

Combating Other Physical Difficulties

While working on our health problems, we can take effective measures to prevent our arch enemy cancer from afflicting us. At least, we can try to avoid contact with a growing number of carcinogens, as a list of these chemicals is in government files. Neither ignorance nor habituation are excuses for exposing ourselves to promoters of this affliction. As an old example, correlation between respiratory cancer and smoking deserves acceptance by all but vested interests. Knowing the danger, we must refrain from smoking cigarettes and promote education on smoking risks. Various radiations, including the sun's rays and X-rays, may induce skin and other forms of malignancy. Thus, we must assume some responsibility for protecting ourselves and others from high dosage of these rays.

Use of some vitamins deserves our investigation as cancer preventives, even where effectiveness has not been confirmed. Evidence suggests that Vitamin E, Vitamin A, Vitamin C and various Vitamin B complex chemicals promote the growth of

healthy cells; other studies indicate that substantial consumption of Vitamin E tends to eliminate susceptibility to cancer induced by special foods. Then, we have a chance of removing simple skin carcinomas by applying niacin paste to the growth. Vitamins may become highly strategic materials in our battle with cancer.

A balance of different minerals that we have in our food may be useful in helping us with our cancer problems. Some elements in our diets seem to check the development of cancers; others seem to be carcinogens that promote these growths. Thus, selenium and iron have been known to suppress tumors in experimental animals. But, where selenium is present in human blood above 0.2 to 0.3 milligrams per liter, the incidence of cancer is low unless the concentration of zinc is high. According to some evidence, zinc in concentrations above 1.0 milligrams per liter in our blood may not only overcome the beneficial effects of selenium, but may be a cancer promoter. In addition, nickel seems to have the effect of causing cancer in experimental animals, unless combined with manganese. So, we may be able to determine how we should change our diets to decrease our chances of developing cancer by securing a complete blood analysis. 113

Arthritis and tendonitis catch up with us sooner or later with their aches and pains as well as stiffness and swelling. These uncomfortable symptoms give us daily tests that enable us to evaluate treatments quite well. If some remedy provides relief, we can easily detect the improvement. Then, our incentive for finding comfort is sometimes highly compelling.

Our first attempts to relieve arthritis might use external treatments, because they are relatively easy to try. Dry heat is an interesting possibility for relief of pains; hot mineral water may be fairly effective in restoring local comfort; soothing chemicals that provide warmth to our skin may decrease soreness. Vitamin E concentrate, rubbed on our painful joints and tendons may give rewarding results. Penetrated alpha tocopherol conditions various actions in our circulatory capillaries and provides help for our nerves that is quite supplemental to heat.

We have considerable obligation to try various means for correcting pinched nerves in our backs. Simple stretching of our vertebral columns deserves experiment. Then, we can discover quite a few special exercises that are highly useful for extending our bodies and strengthening our back muscles. Even rubbing

Vitamin E concentrate on our back bones can sometimes be quite beneficial. Conditioning our spinal columns offers us several means for handling much of our discomforts in joints and tendons.

We know that most of our aches and pains respond to various internal treatments. But, many pain-relieving drugs are hazardous and practically all require careful supervision. Somewhat safer means for easing our discomforts may be available in aspirin and mixtures that contain this chemical. Still, we must experiment with nutrition in our attempts to keep joints and tendons free from trouble, because of multiple beneficial results. As a start, we might build up the amount of calcium and Vitamin D in our food, which not only tones up muscles but conditions tendons. Further, we need to discover any palliative effects of Vitamin C, Vitamin B₁₂ and other Vitamin B complex supplements. All of these experiments are fascinating ways of investigating a more comfortable life.

While struggling to lengthen our period of good health, we must attempt to delay development of diabetes. Our pancreas organs do not stand up well, when we indulge in many popular diets. But, we have chances for postponing this degeneration by improving our nutrition. Our effects are obviously much simpler, if we drastically limit our intake of sugar. Metabolism of sugar proceeds better, when we eat small amounts of sucrose, avoid consumption of alcoholic liquors and get plenty of exercise.

Our anti-diabetes experiments might continue by our adopting diets of raw or lightly cooked vegetables with various supplements. The list of vegetables can be quite long with certain emphasis on legumes. Then, these vegetables might be supplemented with amounts of Vitamin B complex materials and potassium. As another supplement, we might try increasing the Vitamin E content of our largely vegetable diet. The object of these experiments is to find a series of menus that will control the amount of sugar in our bodies. We want an adequate amount of energy materials in our blood, while our organs remain in good condition.

Dental care is one of our major health problems throughout life. Many of our other health difficulties have their origin in tooth infection. Thus, decay and degeneration of tooth structure requires considerable attention. We should retard the buildup of plaque deposits as much as possible. So, the line between gums and teeth needs special and consistent cleaning.

Also, we must keep our gums in good condition. When we stop tooth decay, our gums become healthier. If we retard the development of plaque, our tooth-gum line is easier to keep clean and we have fewer dental cares. All of these problems seem quite interrelated.

These mutual relationships suggest that preventive dental treatment requires considerable action by each of us. At least, we have another reason for restricting our refined sugar intake. Also, we need to discover the concentration of fluoride in our water and take steps to give our teeth this preventive remedy for decay. Even our teeth-cleaning operations require efforts to discover means for making improvements. Then, application of Vitamin E concentrate to our gums and teeth deserves a trial to determine its effect on conditioning gums and inhibiting plaque. Our teeth can always receive better treatment and they deserve the best that we can provide.

Weight control must receive our careful attention as we grow older. At least, when we allow ourselves to become too heavy, some of our other health difficulties become more severe. But, our problems of accumulating weight are quite personal, as our causes and processes may vary considerably.

Even though each of us has our own problems, we do have principles of weight control that apply to all of us. For certain, we must exercise in a consistent manner. Then, our motions must have sufficient vigor to keep the muscles of our bodies in condition and to use up the energy that is available. In addition, we must restrict the amount of food eaten and proportion the kinds of materials consumed quite strategically. These diets must stimulate internal action of digestion that retards fat build up. Such stimulating food materials probably should consist largely of vegetables. Other experiments on weight control might include our increasing the amount of Vitamin B₆ and Vitamin E that we eat. Thus, our keeping our weight at normal levels can be exciting problems to solve.

While we are trying to preserve our health, we must accept the challenge to avoid accidents. Working on problems demands that we become more safety conscious. So, we must observe and promote safety rules with greater consistency, as we grow more susceptible to mishaps. Our lives are more satisfying as we keep a constant lookout for safer devices and better means for eliminating injuries.

Continuing Mental Alertness

Our dedication to problem-solving keeps us striving for greater mental alertness as we grow older. We can use all of the astuteness that we can develop. Then, for this conditioning our mental vigor demands intellectual exercise, significant knowledge to feed our thoughts, care to avoid any damaging bias and relaxation to refreshen our minds.

We get our intellectual exercise through attempts to discover fresh ideas about all of our problems. The methods are the ones that churn around in our minds while we are working on any difficulty. Our search brings to light theories about how our troubles started, so we can select the most probable cause. Then, we must develop proposals about what ought to be done to bring relief. Before we can start on our work of improvement, we must choose a suggestion that offers a good chance of success.

When we are working on difficulties, we must be on constant lookout for pertinent knowledge about our later years. Our minds need all kinds of facts and useful information is where we find it. So, we must do a significant amount of reading and listening in order to be at the right place at the right time to get needed information. Keeping our minds feasting on reality requires maximum exposure of our thinking machines to the vast available knowledge of our Universe, no matter how old we get.

Our ideas need continuing scrutiny to eliminate prejudice or some other irrational mode of thinking. While we grow older, we are confronted with new situations that need to be coped with effectively and we must have minds without unreasonable preconceptions. Any warped obsession can interfere with our making life better; any critical openness can help maintain our mental health and aid greatly in our progress.

As we grow older and want to maintain a good level of mental alertness, we must have occasional periods of mental relaxation. Our minds may operate at a high state of keenness for a limited time and then they may lose this sharpness. At some point of decreased ability, our reasoning power benefits from recreation that allows our faculties to recover their alertness. Such slackening of tensions enables us to reorganize our thoughts, so we develop ideas and plans with greater competence.

Mental relaxation has an extremely valuable function in creativity. Apparently, we can program our minds to search for

special ideas during the time that our stress of thinking about troubles relaxes. As an example, we can furnish our minds with facts and understanding about a problem just before going to sleep. Then, we may be astonished to have our unconscious minds create unexpected new ideas in the middle of our slumbers. During our period of relaxation, we may have our best chance for a creative flash.

Better Emotional Adjustment

Our tenderness can always become deeper and more expressive with the passing years. But, to improve our feelings we must expand our deepest concerns through increasing use of our warm emotions. So, we must warm up our emotions further by continued exposure to more attractive friendships. At the same time, we must prevent damage to our sensibilities that may occur, if we allow some negative feelings to dominate us. Also, our beautiful emotions need occasional rest and regeneration to restore the freshness of our compassion.

Our more beautiful feelings need different kinds of practice to keep them in condition during our later years. Expansion of our affections through use of our warmest talents is partially dependent on our concerns reaching out to more people. More numerous human contacts give us special exercise for our abilities to express tenderness. Also, we need to exert efforts to make our feelings warmer for everyone. This repeated practice in deepening our compassion makes our emotions increasingly beautiful. Building a more friendly atmosphere around us is a tremendous help in working on our difficulties.

Providing ourselves with nourishment for our emotional growth requires continued special input. We must feel positively with considerable expectations for increased warmth. Enthusiastic interchange provides much of our essential sustenance. We may need to help people with eagerness, in order to obtain added strength for our own feelings. Also, our service that contributes to a more friendly community adds to the vitality of our beautiful responses. If we carry out our good deeds at considerable sacrifice, we obtain greater emotional power and more formidable satisfactions.

Our emotions may need periodic relaxation to retain vitality. Such resting process is a loosening of tensions giving us a calming sensation. Such relief from feelings of pressure make possible tender reawakening experiences. Fortunately, we may be able to obtain this emotional revival by simply thinking

beautiful thoughts. Hearing an account of exciting and heroic living helps rebuild our deep affections. Also, when we listen to beautiful music, we may have a remarkable chance to renew the warmth of our feelings. Participation in many friendly contacts is a great way to refresh emotions.

Other Frustrations Of Old Age

When we survive for a long time in our belief, we can do an improving job of facing frustrations of old age. We have substantial experience working on problems and do not slow down just because solutions get more difficult. Confusing situations are common events in our lives and are challenging rather than defeating. Our own deterioration does not creep up on us without warning. We are still alert to detect what is happening to us as well as to analyze what the circumstances are around us.

Providing income for old age may be among our most challenging tasks. We may not earn enough money during our employed years to save much for retirement income. Employers may not place us in annuity programs on a withholding basis that will provide us with pensions. Also, society may allow inflation to wipe out much of the purchasing power of our savings. We can count on Social Security for some help. But, for additional source of income, we must force ourselves to make investments that may rescue us from dire poverty. Then, while we are still well balanced, we must sign Living Wills so we can die with dignity when we become terminally ill. With careful preparation of our finances, we may not become a burden on family or society.

Our improving actions must continue to reveal who we are as we remain expanding personalities. We can concentrate our efforts on caring for others. In addition, we must struggle to enlarge our artistic and inventive expressions. Any degeneration that we acquire must not cover up our compassion. We can keep displaying our warmer feelings and our personalities can maintain a high level of attractiveness to the end.

CHAPTER 11

IMPROVING INTERNAL SOCIAL CONDITIONS

What can we do through our preventive and remedial efforts in Problem-Solving to save our societies from us?

Considering its geographic unity and human continuity, our society has large assortments of serious internal difficulties. Many of these social conditions cry out for relief, because their remedies may have critical importance in our lives. Thus, we must focus our efforts on these perplexities with great determination. In spite of such attention, social improvements usually baffle our ingenuity until a large number of us work together. Progress in overcoming internal social difficulties depends largely on expansion of group responsibility and effectiveness. Thus, when an activist group begs us to join, we must uncover several types of information. Our goals for accomplishment, vigor of effort and procedures for action must largely coincide with those of the group, before we give it our complete support. Also, our group efforts must have capable leadership. So, we must develop vast political skills in influencing accountability of leaders and in making them guide us more effectively.

More Beautiful Structure To Our Society

Increasing the amount and quality of our democracy is a powerful indicator of our going upward. In effect our belief is the foundation of democracy. Struggling with our problems, we must strive to see that each one of us has increasing value. In addition, we must demand that our society recognizes no distinctions, which might make any one of us count for more than another. This equal value means that all of us are allowed to express ourselves freely on actions taken by our society. Then,

carefully considered opinions must have equal attention. Also, we must have improving community relationships. So, sex, race, color or national background must be increasingly insignificant. Our societies grow more unified and effective through our demanding a more refined democratic structure. 120

Our work on difficulties keeps us struggling for even-handed justice. Living under fairly responsible representative governments, we have areas of relatively equal rights and opportunities. We may find out much about what is going on around us; we may receive assistance in understanding our social problems; we may vote our considered opinions. Even so, we must work to advance further the cause of self-government and its fairness to all of us.

Our freedoms require constant attention with considerable vigilance. Freedom to be ourselves still needs pressure on government to limit interference by others. Freedom of religion still calls for us to insist that we be left alone with our private beliefs, unless we infringe the rights of others. Freedom of speech still depends on our government allowing self-expression, as long as we do not accuse or slander. Freedom of press still requires our action to stop restrictions on valid communication, hopefully allowing us to get more accurate information. Freedom from want still means that government must give strategic help with our economic problems. Freedom from fear still calls for us to get more assistance with education and more personal protection. Freedom from unequal treatment under the law still means that we must struggle to establish a more just government. Our belief requires that we keep the authority in our society under more of our guidance to insure greater political freedoms.

Our influence must reach out in all directions to equalize human power and accountability. Thus, our high sounding ideal of liberty has greater meaning than the implication that we ought to be able to do as we please. Our liberty has much more in it for problem-solvers than immunity from confinement without due process of law. (Our expanding social responsibilities and cooperation recognize each others rights and opportunities that establish our many freedoms.) Such mutual recognition creates political power that we must diffuse equally throughout our society. Then, liberty becomes the ideal condition in which each of us has an equal share of this political power.

According to our belief, liberty is an objective that we must

struggle for constantly with concentrated effort. It is an ideal that is some distance away; it is not some glorious possession that we have already acquired. We must vote for liberty in every election that demands our visit to the ballot box. Our lobbying activities must seek to distribute all kinds of power more evenly. We must see that our consumer groups have an increasingly democratic base. Organization of corporations requires substantial change to bring employee representation into management. Labor unions must become more fully representative structures in which each member has an equal voice. Such labor unions must include laborers that are currently widely exploited. Our actions must continue to divide up authority into more nearly equal portions for each of us.

Some Internal Responsibility Expanding 121

Local high density of population demands considerable amounts of our society's attention. Accumulation of people in cities creates many special difficulties and worsens many general ones. In big cities, we have some concentration of culture. But, we need to exert tremendous efforts to improve feelings of community. Our endeavor is necessary to get groups together containing people who have common interests. When our society becomes more friendly, we can feel less isolated from human contacts and less fearful of our neighbors. In the deserted rural areas, lack of culture and need for activities are difficulties that require our opposite concern. We must focus on making places outside of cities more rewarding residences, if we expect to develop more vigorous societies. Concentrations of people must not be allowed to create either vast urban messes or lifeless rural styles.

Transportation has become a frustrating dilemma that we must deal with more strategically. Our concentrations of people have created conveyance monsters involving distances, confusion, noise, polluted air, inconvenience and energy consumption. One of our important problems is to see that streets and freeways occupy a restricted percent of our land area. Our efforts might well make travel on streets and freeways a less traumatic experience. At least our vehicles should use the cleanest fuel.

Recent crises have brought home rather forcefully our severe shortage of available energy. Electrical blackouts, empty fuel tanks and rising prices have occurred too frequently for comfort. Our society runs on energy and we must work to insure

that we have an expanding supply from our cleanest sources. Our dependence on foreign oil needs relief. Then, we can do much to encourage the development of solar, wind and geothermal energy. Our responsibility must reach out to discover many ways for producing acceptable power.

Fresh water is a critically essentially material for sustaining human life, raising food, household use and industrial application. Sufficient water may fall as rain on our earth. But, timing and location of this precipitation is seldom satisfactory for our requirements. Thus, we have many problems of collection, storage, distribution and conservation that call for our special attention. In addition, we must work to improve our means for purification of water, so it can be recycled indefinitely. Our extremely precious commodity must be treated with a great deal of respect.

Both locations and construction of housing bring forward real puzzles in many social situations. As problem-solvers, we have the responsibility to promote location of dwellings, where the need is great. People want houses to live in near where they work, so we must see that houses are built in these places. The location and construction of all buildings must be safe from natural disasters. Naturally, public utilities must meet human demands. Also, we must insist that sewage undergo treatment for recovery of water and solids. Advancement in our human dwellings must keep up with the degree to which we improve our way of life.

While we struggle with social difficulties, better health care must be high on our priority list. Researchers must uncover better information about our physical, mental and emotional well being. Other projects must promote better professional consultation that enables us to understand our health problems better and to correct our unwholesome practices. Then, one big job is to distribute this knowledge and understanding more widely. At the same time, we must try to improve the availability of better hospital care for everyone and special attention for the elderly.

Crime and terrorism demand our greatest preventive skills, if we are going to protect the innocent from outrageous assault. Our efforts must focus strongly on restraining development of criminals by giving all children better training. Next, we must make attempts to detect any criminal tendency in youth at an early age. Further, we must try to institute rehabilitation for those who have criminal tendencies as well as those who com-

mit crimes. Work to cultivate a safer society can be rewarding experience for all of us.

Our efforts must increase the probability that every criminal will be captured, convicted and sentenced. Here, we might promote means for making illegal acts cost criminals according to what they owe society. Here, our influence would institute a program of making each criminal work, while in confinement, to pay back to society and those assaulted an indemnity for the crime.

More Economic Responsibility

Our belief must bring more business activity into being that will create full and better employment for all. Our economic experience suggests that our businesses must be based on private enterprise with government help and strategic supervision. Also, each one of us must have an enlarging horizon of economic stability. Such objective requires that we have more types of job opportunities. Further, we must strive to clean up our social messes that arise from unemployment.

Our annual incomes ranging from welfare compensations to many millions of dollars challenge us to wipe out this disparity. Desperately poor and super rich form an antithesis that the increasing proportion of us with middle income does little to erase. Wretched poverty creates many problems that accompany our dilemmas of ignorance and poor health. Then, we need all of these poor people to work on jobs and consume goods and services. Actually, the super rich may serve useful functions in our economy, when wealth does not acquire political power in keeping with income. But, the power of wealth is highly corrupting. So, we must struggle to raise the living standards of the poor and limit the political power of the super rich.

One of our economic dedications must be to diminish the severity of our business cycles. During the first two centuries of our country's history, our economy endured many wild gyrations of "boom" and "bust." After nearly every war, a runaway inflation collapsed into a depression that left our economy largely paralyzed. Then, desperate measures by government enabled us to pump strength into many enterprises, only to have our economy resume fluctuations. Thus, our efforts must help lessen the frequency, depth and sharpness of these business variations and maintain steady economic progress.

Our society has assumed some responsibility for ending paralyzing deflations and we must expand this stabilizing

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action. In the nineteen thirties our government helped bring us out of deep economic depression using deficit spending, establishing new businesses and controlling unemployment. This action was successful enough so that no subsequent administration has dared to abandon such policy. Usually, we try to stop deflation at the cost of inflation.

After the second world war, government rushed into our economy and largely prevented deflation before it got started. Such stimulating measures illustrate the possibilities, even though these pump priming expenditures were largely for military and space projects. Our belief suggests that emphasis on stimulating businesses that provide new energy sources, ecological renewal or consumer services might have been more effective and rewarding. Without a doubt, we must work harder to do a better job of preventing recessions and depressions.

Slowing down inflation may be equally important for our economy. Many of us are trapped in almost fixed incomes and increases in prices of goods and services shrinks the amount that we can afford. As our pay increases, we can understand something about the buildup of pressure for a spiraling inflation. Most of us suspect that prices of goods and services are going to rise. So, we borrow money to buy things that we anticipate needing, knowing that we can pay it back with inflated currency.

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All branches of the economy get into the act. In businesses, we recognize that increased investments make possible expansion of our markets. Naturally, we borrow and create money for expansion, knowing that inflation will make repayment easier. As organized labor, we demand increased wages to counteract any increased cost of living. But, business is equal to frustrating strategem and simply passes these enlarged costs back as higher prices to consumers. Even government borrows and creates money to increase its services, instead of taking still more of our income in taxes. Thus, at present we seem powerless to control our continuing rise in price levels.

Increased economic stability requires greater cooperation between consumers, business, labor and government. Thus, our action must accelerate the enlistment of interaction between these groups to control business cycles. Effective regulation will not be easy. Deflation becomes quite difficult to prevent when we have wars; inflation becomes automatic when the supply of available money expands. We have tried the lowering and raising of interest rates to speed up or slow down the borrowing of

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money, with little effect. Our wage-price freeze action has usually just delayed the rate of our price spirals. So, we must keep struggling to acquire some control.

Satisfactory advancement in our society depends on our creating a consumer oriented economy. We need better, safer and more easily repaired products on the market, some of which must be made of recycled materials. In particular, our food must be richer in nutrients and less contaminated with doubtful chemicals. Our services must be more available, more effective and more adaptable to our individual needs. If we are going to make progress in relieving these difficulties, we must start now grappling vigorously with possible solutions. None of our economic situations improve, while we overlook them.

More Ecological Responsibility

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Pollution of our environment has almost become an ecological disgrace. Air in our cities has long been dirty with smoke and, since the industrial revolution, with factory discharges. Now, this precious source of oxygen for life often irritates our eyes, noses and lungs until we can scarcely bear to breathe. Such annoyance should be a great incentive for us to keep our air purer. But, with all of our smog producers, progress is scarcely obvious. Further, our metropolitan areas have long produced uproar and commotion. Now, we have difficulty escaping noise, even in the most out-of-the-way places. Near airports decibels of sound may be so great as to damage our ears. Thus, control of everything that contaminates our air needs more effective social action.

Water and soil have not escaped our careless discharge of wastes and application of chemicals. The degree to which life is damaged in some rivers and lakes is depressing. Besides, rivers carry much of this waste and other pollutants out into our oceans. With our sewage added to this mass, we can foresee that our oceans will become dead shortly, if we do not stop their contamination. Still, our ability to lay waste to soil may exceed these devastations. With strip-mining, over-farming and earth fouling, we can decrease the area of our fertile soil at an astonishing rate. We must struggle hard to develop controls, if we are going to preserve our water and agricultural lands.

Even with our substantial endowment of mineral resources, self-sufficiency in essential raw materials is beginning to disappear. Official reports disclose that, within a few years, we will be deficient in twelve out of the thirteen most essential mate-

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rials for industrial use. With such shortages facing us, we must obviously recycle all possible waste. We dare not casually discard our own essential materials as junk and then replace them by exploiting other countries. The world's supply may not last long enough. Thus, we must help get these recycling operations underway at once to conserve valuable substances for future manufacture.

Better Education And Training

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Ineffectiveness and inequality of our overall educational efforts tend to be appalling. At least, our present training at home and in schools does not meet much of our requirements as problem-solvers. In our belief, education is all of life and our learning process must last from the cradle to the grave. We learn to relieve difficulties by receiving extensive experience working on them, hopefully at home, at school and among our peers. But, such experience seems to be largely lacking and we must struggle to improve this extremely important ingredient in our society.

As our preparation for life must start at our earliest age, our efforts to improve training must start in the home. Such action must attempt to make parents love their jobs. We must help to make mothers and fathers into patient, compassionate, effective and hardworking teachers of developing children. In many instances, these home teachers must go to the school of first-hand experience, in order to learn how to provide this most basic of instruction. At least, we must work particularly hard to eliminate home conditions that lead to child abuse.

Our schools must take over our educational processes more effectively with more financial support from all of us. In the past, one of our non-support practices has limited the financing of schools to property tax from the respective districts. This idea has condemned schools in slum areas to total inadequacy. Fortunately, financing of our schools has expanded to state governments to a substantial degree. So, we have made progress against one educational obstacle, if we continue to press for better financing of all schools.

Stultifying attitudes are around to retard school development and challenge our improving efforts. The I-should-not-have-to-pay-for-educating-someone-else's-children idea should have disappeared in these modern days. But, this regressive thought is still here and we must continue to combat it with information about how everyone benefits from universal education. The

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lament that "I did not have all of those luxuries, when I went to school" still defeats bonds. So, we must work hard to overcome any such defeatist stand against our improved training. Even some of our leaders in high office may claim that we cannot afford a good educational system. Thus, we must generate our strongest opposition to such unfortunate call for retreat. 127

One of our social responsibilities must be to improve the organization of our schools. Where administration becomes top-heavy and supervision becomes cumbersome, we must work for reforms in coordination. Our efforts must also strive for relaxation in the rigid sequence of classes that our children attend. Our aim must be to provide universal participation in the learning process rather than preferred teaching of those who need help most or who are most responsive. We should let the most responsive students do some of the teaching. Also, we might work for more games for learning by all students and fewer sports for winning by the especially skilled. A more invigorating learning structure will always be possible for education.

Our devotion to education must focus on improving the materials that our schools teach. We really need more than just reading, writing and arithmetic. Our classrooms must succeed in implanting information, understanding and experience that is useful in solving problems. Also, this instruction must show us how to recognize important difficulties and how to go about providing relief. As an example, our schools might glorify our society less and glorify all efforts to advance it more. In particular, our educational centers must train our minds more for thinking and getting creative ideas about progress than for memorizing and reciting.

We must try to insure that children really enjoy their classrooms and the excitement that develops from daily learning and doing. Reading must include the probing for better ideas in imaginative ways, instead of reeling off words quite routinely. Writing must become inspirational setting down of our personal concepts, rather than rivalry in putting more words on paper. Mathematics must become spontaneous calculations of interesting problems, in place of races to find routine answers to stereotypes. All subjects must become stimulating adventures in creativity and invention rather than contests in who can impress the teacher most.

More invigorating incentives for student acquisition of knowledge and understanding call for our support. Our motive for

learning in schools must become our feeling of success in achieving improvement in results rather than getting good grades. In fact, each student might be allowed to determine his or her own grade from a formula for achievement. We must promote schools for each of us instead of elite halls of performance for the most brilliant of us.

Our simplest classroom situations need our remedial efforts, if education is going to take any big step upward. We must demand that numbers of students per teacher decrease, even though such requirement calls for increase in numbers of teachers. Teacher aids must have wider use; student teachers must become quite universal. When we instruct others, we learn with greater retention than when we just attend class. So, all of us need the experience of teaching others under supervision, as we can use this skill in many places in our society. Part of our instruction must also be on a one-to-one basis, with the teacher tutoring one student. Learning and teaching must have a more personal relationship, before we can extend the inspiration of coping with difficulties. 120

Our biggest obstacle to improving our education greatly may be to find enough teachers with the necessary skills. To take on these jobs, we need adequate warmth of personality, ample training in teaching by personalized methods and sufficient inspiration to infuse children with the excitement of working on difficulties. These qualifications may limit the number of us who are competent instructors, until we acquire considerable experience. So, recruiting of competent problem-solvers to staff our schools is bound to be a continuous struggle. But, on-the-job training offers the possibility that some solutions may evolve to overcome this perplexity. As a society, we may be able to continue lifting ourselves by our bootstraps.

More Responsible And Effective Government

While we are working on social problems, we must devote a substantial proportion of our effort to improving government. Much of our progress on difficulties requires corrective action by leaders in authority. Without government cooperation most of our social advances come to a stand-still; with an alert, enlightened, sympathetic and trustworthy authority, we can usually make steps of progress on problems that are critical. But, leaders of government are largely our responsibility and we must work hard to make them more able and effective.

One important improvement, which we must work on,

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involves making our officials increasingly representative. This complicated effort must resist gerrymandering of people in electoral districts. Our struggle must continue with greater attempts to inform the electorate about important issues. Then before each election, we must probe candidates to discover their attitudes and positions, so we can make wise choices. When elections occur, we must vote and assist in getting registered voters to the polls. After the election those in public office must get our encouragement through our pressure groups to act with social conscience. Our public officials should respond to the views of the majority. But, we must insist that minorities have representation and be heard, so that government keeps acting more completely for all of us.

Our efforts must try to insure greater reliability in our elected leaders. In this action, we must attempt to screen our officials from the corruption of power and patronage. Officials of government must not be purchasable; election processes must not be controlled by political machines or campaign contributors; special interests must not get special patronage. At least, we want those in authority to refrain from acts that are either illegal or harmful to our society. Thus, our political activities must concentrate on electing more honest and trustworthy officials to positions of power. 129

Complication demands much remedial action to increase proficiency and efficiency in government. We cannot find out much about judges or their performance. Still, we are asked to vote on them at a time when we need vast judicial reforms. For legislative departments, we must work for increase in competence of technical staffs and improvement in skill of advisors. Legislative committees need to acquire capability that facilitates greater output. Structure can always be improved in legislatures. For executive departments, we must strive for greater knowledge, understanding and effectiveness. Our action here must try hard to restrict any abuse of power. Our machinery of authority must act more effectively and with greater dispatch under our supervision.

We must make our public officials feel the accountability to the higher authority of the people more strongly. Impeachment processes may need to be easier, so we can get rid of irresponsible leaders with less social turmoil. Also, when representatives in government display special ability to handle social situations, we must show appreciation for this skill. Recognition for accomplishment is necessary for each social job well done.

We must use every scheme to get honest, intelligent, creative and persistent leaders to keep all of our improvements rolling along.

More even political justice requires our continuing vigorous efforts. We must struggle to improve the degree to which our good fortunes mean added responsibility rather than special concessions. Likewise, we must see that our economic disadvantage means that we receive greater training and opportunities for life. These activities require that we join lobbying organizations that bring pressure to bear on government for fairer elections, better treatment of citizens and less distinctions on account of race. Thus we must work strongly for an equal rights amendment to our constitution. Tax reforms must receive our support, so we pay increased taxes as our incomes increase. Our governments must get our maximum help for developing more nearly real social equality.

CHAPTER 12

ADVANCEMENT IN INTERNATIONAL RELATIONS

What cooperation between nations can we develop in Problem-Solving so our societies will refrain from destroying each other?

Our world societies have found it impossible to reach any long time harmonious association with each other. Oscillations from cold war to hot war to armistice have been the unfortunate pattern of human history. But, as problem-solvers, we dare not accept this disorder in international relationships as permanent. We must face the challenge of discovering programs for directing human ambitions and loyalties that will improve inter-society feelings continuously. Our efforts must show considerable concentration on developing better friendships between nations. We desperately need a world in which people of various countries are better acquainted, work together better for common goals and are better able to settle their differences peacefully.

Better Communication Between Societies

Our communication with other countries must have more wide-open doors, because of common interest in human problems. Some of this openness may be apparent in areas of public health, science and arts. An astonishing amount of exchange among these ideas occurs across national boundaries by health specialists, scientists and artists. Even so, we must continue to promote better international understanding through these important branches of our belief. We must develop more International Geophysical Years and other projects that enlist world scientific cooperation. In arts also, we must increase the openness that leads to people working together. Our worldwide joint

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action must burst forth to embrace studies of many more human difficulties.

Our principal task may be to prevent misunderstanding between nations that originates in selfish objectives. Here, we might work strongly to suppress international jealousy. We should not want our country to have the highest standard of living, just because we deserve to be the most prestigious. Our government must not tend to force other nations to do what we want, while flaunting the idea of our superiority. Such arrogance produces maximum international fragmentation and isolation. We must try to see that our country gets down on a level with other countries, so our joint communication is between equals.

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Effective international cooperation must be real and sincere, rather than political trickery. Thus, our struggle for world understanding must have greater motives than just the political effects at home. We should not become friendly with another country only because we need their raw materials. In our belief, we must acquire sincere sympathy for all troubled situations in our world. We have pleasant interaction with other countries, because we study together, work together and help each other with our troubles. Our friendly messages get through to each other, because we listen and give pleasant mutual response. Actually, we must have so much interdependence that "foreigners" scarcely exist.

Better means for exchanging ideas through spoken and written words requires much more of our support. Presently, we are not making rapid progress in improving communications across international boundaries. Yet, nothing breaks connections between two societies like neither group being able to understand well what the other is saying or writing. When we are unaware of this hidden language significance, we frequently are in danger of losing our friendly relationships. One possible answer is to develop a world language that we can all comprehend. At least, our special challenge is to increase our understanding of other people through words.

Increasing Preferential Support For Democracy

As we develop international cooperation, we have some obligation to give democracy special respect. Representative government is a tremendous invention, whereby people govern their own country hopefully with increasing political freedom. Such constitutional authority has shown great promise for a couple

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of centuries in several societies. Thus, with our experience, we have every reason to promote it universally. We should recognize constitutional democracies promptly wherever they develop. Still, we must not be highly critical of governmental designs that developing nations adopt. Also, our interests must not become negative, just because a country starts indulging in government enterprise. But in our belief, we must have close identity with constitutional democracies, where they have really free elections. The societies to which we might give the most preferential support are those that provide maximum human rights.

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Our treatment of countries with representative governments must be particularly free from exploitation. Other democratic countries may have a desire to control our multinational corporations, even where these businesses are highly beneficial. But, we must not react negatively to this democratic action. We must exert pressure to prevent our government from interfering with other countries just to help our businesses. Our foreign policy toward democracies must operate on a mutual supportive basis and not on our selfish economic interests.

On occasion, countries that are experimenting with democracy need economic assistance that only our government can give. In this situation, we must see that our government provides more than the help of the Peace Corps. Our international efforts must show others how to develop their natural resources, stimulate their economies and stabilize their businesses. We can scarcely feel very stable on an affluent island in a sea of poverty. The economies of all countries with representative governments must respond to each other by being mutually helpful.

Our fears that are expressed in the cold war against communism sometimes place us in alliance with some of our world's worst dictators. We may even provide these oppressors with military assistance that they may use against their own people. Our support for tyrannical dictators and minimum help for many democracies is confusing to developing nations. We can scarcely defend our drastic distinctions between the two types of autocratic governments, communist and fascist. Thus, our support for democracy must include condemnation of all political tyrannies, whether or not they embrace economic despotism.

More Friendly Cooperation

One of our greatest concerns in our belief must be progress in international cooperation for peace. Throughout history, no country has provided as much foreign aid as ours during the last few decades. But, when we assess the intent behind the generous action, we find that our purposes were not altogether unselfish. The preponderance of this assistance was in the form of military supplies. And, such arming of the noncommunist world suggests that we have hoped for self-protection as well as preservation of the status quo. Much of our efforts did little to relieve the difficulties of the countries aided. Now we must work to prevent our unilateral self-interest from being disguised as philanthropy.

We must seek for more equitable international exchange of natural resources. Our own need for importing chrome, manganese, aluminum and copper ores, as well as oil and other essential raw materials grows daily. At the same time, we serve as the principal exporter of food. This great dependence tends to create a highly mercenary basis for international economic decisions. Thus, we must transform any blackmail, at the time resources are exchanged, into friendly joint operation. Our action must help form a world of nations that work together with increasing unity.

The United Nations is the organization that is available to improve international cooperation and we must give it our best support. In a surprising number of areas the UN has built-up important world services. UNICEF has helped many millions of children escape starvation and attain reasonably productive lives. UNESCO has promoted free interchange of ideas, has taught many people to read and write and has preserved many cultural heritages. The UN Economic and Social Council, World Bank, World Health Organization and International Court of Justice have made many contributions to world interaction. But, these services are only some of the benefits that our world association of nations needs desperately.

Many of us have hoped that the UN would become a league of friendly nations dedicated to keeping world peace. Unfortunately, we have much more to do before this expectation can develop. The cold war leaders of the Western and Communist countries rapidly deadlocked our powerful Security Council into the "Bickering Big Five." Here, members vetoed 75 out of the first 78 measures that were brought up and largely paralyzed this important administrative organ. Our replacing Taiwan

with Red China simply introduced a triangular polarization, which has made the "Big Five" almost completely inert. Our more representative General Assembly has not appeared to be much more effective in generating peace. Still, we must give the UN credit for lessening tensions in some parts of the world. So, our responsibility is to improve it and to support it more strongly, so it can do a better job.

We have the special responsibility for standing behind our UN Secretary General. Our UN peace-keeping action has depended greatly on the skill of this top executive officer. Trygve Lie guided the UN through several difficulties, only to offend the USSR over marshalling UN forces to repel Communist aggression in Korea. Afterwards, he had much greater difficulty settling disputes. Dag Hammarskjold used "quiet diplomacy" and operated fairly successfully under General Assembly mandate. But he died as a result of an accident during his Congo peace activities. U Thant struggled hard with many difficulties, having some measure of success. Still, eight or nine conflicts in Africa, Vietnam war, Middle East outbreaks and the India-Pakistan confrontations kept him busy. Also, he had very little cooperation from major powers. Now, Kurt Waldheim has a frustrating time working around the activities of Security Council members. In the face of such obstruction, we must demand that our Secretary General be given more power and better support.

The fragility of our makeshift UN structure shows up when all major powers carry out international diplomacy quite independently. Our world organization, which at first offered us some hope for peace, has become a poorly representative facade for show. Thus, the UN gives major powers the appearance of wanting to work together with other nations, while leaving them free to engage in their own power plays. In our belief, we must keep active trying to remedy this false front for world peace. Our efforts must develop cooperation that gets more workable and friendly.

World Government

Our belief drives us to struggle for important causes, even when movements in these directions are quite weak. One such movement is for a stronger central authority on our earth. Our vast disparity in educational advantages, technological progress and standard of living separates us widely. Thus, our developing adequate cooperation between nations seems dependent on our establishing a World Government. The increase in unity that we

need so desperately demands this cohesive force.

We can only speculate about the type of unifying authority that might be possible in the near future. But, we can set down desirable essentials for such supervising power. In organization, it must be more representative than the UN; in operation, it must substantially increase world interaction and deal with our tremendous interdependence. We are beginning to see that we must work together better on many problems that overlap national boundaries.

We must exert more influence to gain increasing worldwide legal authority for our World Government. This centralization of power means that all nations must give up some of their sovereignty. Our central ruling bodies must operate under a Constitution and through laws specifying how their authority is to be used. These documents would also have rules for organizing subordinate governing bodies. Thus, we should start now to work on a constitution that might provide suitable structure for an effective association of nations.

We might design a world Executive Body, consisting of representatives from large nations and groups of small nations. Each person in the world should have someone on the top governing authority who is partly responsible to this person. Each member of this authority should represent a comparable number of people, occupying a relatively large area of our earth. Our Executive Body might have eleven members, one each from USA-Canada Union, USSR, Red China, India, Eastern European Union, Pacific Union, Southeast Asia Union, Spanish-Portuguese America, Middle East Muslim Union, Middle and South African Union and an Association of Smaller States. We might also have various Sub-Executive Departments, which operate in consultation with the top authority. These might include one on Peace and International Relations, another on Education and Communication and another on Economics and World Trade. While reflecting on such super structures, we might devise some scheme to control the use of the veto.

We must develop world legislative action to serve as the foundation for our law and order. This action should be the responsibility of a Special Legislative Assembly, which must be as representative as possible of the whole world population. We might promote a process whereby every twenty million people would have representation in this Assembly. Our individual votes must have equality of political strength, where world laws originate.

Our super governmental structure would need a new World Court, which must have more power than the present UN judicial organ. Interpretation of laws by this court must be capable of leveling the influence of various members on world affairs. Also, our judicial authority must interpret our world constitution so that human rights are justly defined. When this branch is established as a representative structure, we may be able to defend the rights of disadvantaged people through court action.

One primary purpose of our central authority would be to settle disputes and eliminate wars. Here, we must control hatreds and jealousies that allow nations to carry out massive killings without reason. Also, the military capacity of the world must decrease drastically. Our World Government would take command of armed services, which would serve only as a police force to eliminate terrorists. We must not allow international confrontations to produce large scale slaughter and destruction. The enormous waste of human resources in wars and preparation for wars must stop.

We must demand that our World Government develop a program of universal education. Expanding health care is highly dependent on spread of information on raising food, preventing ailments and curing diseases. We can only transplant science and thinking skills through instruction. Then, feelings about ourselves and others demand careful training. Also, before justice can spread out and take in everyone, all of us must understand what is going on in our world. We must all receive increasing experience working on the mass of human difficulties to achieve fulfillment.

Some agency of our central authority must provide a measure of order from our international economic confusion. Actions of such body must help developing countries obtain increasing amount of technological skills. Then, its unbiased judgment must determine acceptable means for distributing natural resources. Also, manufacturing must receive some strategic direction to enable countries, which have few resources, to enter the world economy. Consumer goods and services must flow relatively uniformly worldwide. Our few developed countries must not be allowed to consume so abundantly as to use up a high percent of the world's wealth.

Our central authority must enact *Laws Of The Seas* that will protect our oceans from damage and open up our seabeds to development. We discharge enough waste into oceans from our

metropolitan and industrial areas to offer hazard to life in the seas. Also, our oceans are fished so extensively and intensively that we have difficulty predicting reasonable ecological stability. In addition, our seabeds have valuable energy and mineral resources that we might recover, but ownership is unknown. Presently, we are unable to develop *Laws Of The Seas* to handle these problems and, if they were enacted, we would have no authority to enforce them.

We cannot forecast how well a World Government might overcome our more critical international problems. Still, our possible incremental return from this type of structure seems relatively clear. A partly effective central authority might keep our super powers from wasting staggering amounts of resources quarreling with each other. Then, we might expect that disadvantaged nations could get a better break, so they would have more goods and services. Thus, we must get our struggle going for one friendly world, in which our critical human problems might receive increasing action rather than just passing notice.

CHAPTER 13

DECREASING MANKIND'S DILEMMAS

What difficulties do we all share, because there are so many of us, and what can we do to relieve them in Problem-Solving?

Our discussion here limits the meaning of the term, mankind, to be a symbol of numbers and concentrations of people. This term is convenient for such purpose, because it has always had a meaning that covers the numbers concept. Also, we do not choose to use all of our words that refer to human beings interchangeably, even though we must have some overlapping. By limiting the concept of mankind to our narrow range, we can analyze many human problems with greater clarity. We need to examine special problems created by crowds of people and we discuss them under mankind to overcome some confusion.

In our belief, we realize that human beings have a good foothold on our beautiful planet. At the same time, we know that we have only so much land surface on earth. We must have considerable area on which to raise food, in addition to the ground on which we have our dwelling houses. Additional land is necessary for growing fibers for clothing and timber for houses as well as paper. Our industrial plants and businesses take up considerable territory, as do our streets and highways. Then, an astonishing fraction of our land is not suitable for either houses, agriculture or industry. We do not have very much area left and we know that the abundant life is not identifiable with a pigeonhole existence. So, our responsibility is to work for wise control of numbers and distribution of human beings. Our earth must hopefully become a more inspiring and dignified home for mankind.

Decreasing Our Uneven Density Of Population

We have already uncovered some of mankind's dilemmas, because they overlap society's perplexities. In particular, our great cities give us insight into these dual frustrations. Crowding people into large cities aggravates crime, poverty, traffic, educational differences and many other problems that are population difficulties as well as social disadvantages. At the same time our rural degeneration gives us some space for resettling people. Thus, our population unbalance gives us opportunities to even out these burdens of mankind.

Spreading people from big cities out over the countryside offers a special population challenge. Here, our dispersion measures might be attempted by relocating people from large centers of high density into a large number of smaller cities. These smaller cities might lessen rural degeneration as well as big city overcrowding. Also, this structure might make our transportation less complicated. At least, the problems of evening out our concentrations of mankind demand a great deal of inventiveness.

Obviously, we have whole countries with high population density that illustrate large scale overcrowding in our world. India, Bangladesh and Belgium are examples of excessive collections of people. Unfortunately, many overcrowded countries also have skyrocketing growth of population. This situation develops enormous difficulties of providing people with elementary needs. So, we have these areas of massive poverty, extensive starvation and vast feelings of hopelessness. Here, every possible approach to the overcrowding problem may be quite essential to find relief.

Temporary alternatives might include some movement of people from countries of high density to those that are lightly settled. Actually, where population density is great, people may be quite willing to leave the country. Still, nations that have some room for more people may not be anxious to receive more immigrants, unless they have special skills. In places like Canada, Australia and the USA, we are not very willing for overpopulated nations to accelerate our population growth just to lessen theirs. But, in one way or another, problem-solvers must work to make mankind take the crush out of living every place.

More Strategic Settling Of People

Our need for fitting mankind on earth more wisely creates

complex problems of adaptation. A limited area of our land has a comfortable climate and we can expect people to accumulate there. But, this situation challenges mankind to develop means for adapting to unpleasant weather. We must try to make more of our deserts, tropical forests and relatively frigid regions available for satisfying human habitation. Most deserts just need water; our tropical areas need protection from insects and rain; frigid lands call for special means for heating buildings. Also, much of our terrain is mountainous and we cannot expect it to attract a large population density. Still, we must inveigle more people to settle in these mountains who would fit into this environment. One important strategy would be to make unfavorable locations on our planet more pleasant.

Resources of our earth require some consideration, when we think of settling mankind more strategically. We might encourage people to live near good agricultural land, just to keep our cultivated territory nearer the market. Then, each one of us uses a large and increasing amount of water each year. But, even after we learn how to recycle it, water may become scarce and poorly distributed for human use. So, to cope with this difficulty, we must struggle to bring water and people together. Also, necessary raw materials for manufacturing or energy production exist far from where they are needed. Here, our efforts might attempt to organize people and resources, so that goods and services travel a reciprocal trading circuit. If we develop considerable trading strategy, world cooperation can be made much easier.

Mankind in increasing numbers must have greater chances to enjoy much of the beauty of earth. Views of mountains, lakes, rivers, forests and natural wonders are sources of magnificent inspiration. Wild flowers blossoming and birds singing can give us highly exhalted feelings. These sensations provide our most meaningful connection between human beings and our magnificent earth. We must work to preserve substantial wilderness areas as a great emotional support for mankind, even when this effort provides additional crowding.

Control Of World Population Explosion

When we examine closely what is happening to earth's population, we may receive a violent shock. After all we have some rights of privacy. But, not for long, because we are crowding human beings on earth's limited land area at an astonishing rate. Our great optimists may maintain that control of this problem

will be automatic. Our dreamers of fantasy may say that we can send our excess people to some other planet. Still, the evidence suggests that none of our problems as serious as this one solve themselves that easily. Our birth rates that go down during recession simply go back up when prosperity returns. In all practicality, we are stuck here on earth. No other body in space with suitable environment is near enough to provide us with resettlement space. Thus, in our belief, we must join the struggle to spread information and understanding about controlling our population.

Our best information reveals that the human population of our planet increased gradually with time over a tremendous preliminary period. Such growth began to show disturbing acceleration before 1000 BC. Then, our numbers began to curve upward with time at an alarming rate. By the middle of the nineteenth century AD, when our industrial revolution spread over several countries, dramatic acceleration appeared. Now, our tragic growth curve seems to be headed for some unbelievable population density, if we do not stop it.

We can get a clearer picture of our imaginary future situation for mankind by thinking in terms of population doubling. Before our numbers on earth began to grow quite noticeably, doubling might have occurred in 1000-2000 years. As our population started to accelerate, this doubling time decreased to 300 years and then to 200 years. Soon, our population doubled in less than 100 years and may now be below that nonsensical figure of 37 years. We had more than 3.5 billion people on earth in 1970 and we might expect over 7.0 billion by 2010. And, continuation of such growth in population would be a near catastrophe for mankind.

If we imagine that controls will fail completely and mankind will double every 37 years indefinitely, comic absurdity takes over our picture. After 500 years of such preposterous propagation, we would have one human being for each square yard of earth's land area. As we cannot stand securely on every square yard of our 52 million square miles of land, our crowding would be worse than this. At least, this "standing-room only" situation must not haunt mankind. We must not tolerate the idea that our 25th generation hence would ever be subject to such nonsense.

Overcrowding In Our USA

We might think that overcrowding cannot happen here in our

USA culture. Our advanced situation must represent the results of certain enlightenment and we ought to see our population problem coming. Actually, with our 58-60 people per square mile, our population must be under better control than the world's, but not very much. Even here, where knowledge is widespread, our population doubled from 100 million in 1920 to 200 million in 1970. If we maintained this dramatic doubling rate every 50 years, we would end up with "standing-room only" in 650 years. Apparently, in our most advanced nation, we have a population problem that presents a special challenge for mankind.

Indications that our population explosion in the USA has diminished in recent years offers questionable hope. Most of this optimism arises from the decrease in numbers of children born per year per family during our recent recession. But, such slowing of birth rate occurs during every recession. And, we can expect that our birth rate will take another spurt, when prosperity returns. In addition, when economic conditions are below normal worldwide, the USA becomes a very attractive place for both legal and illegal aliens. So, immigration may even overcome our temporary lag in human reproduction. Thus, we must not allow any slowdown to delay our efforts to encourage long range control of population right in our own country.

Need for a powerful struggle to restrict world population becomes more obvious, if we are already overcrowded in our USA. If we can show any evidence that our country has too many people now, the case for present critical world overpopulation is complete. We can expect that the standard of living of many other countries will want to approach that of our current level within a few decades. At that time, their higher population density will give them vastly greater problems than we have at present. Thus, any suggestion that the number of people in our country is currently too great must make us work very hard to hold the line on our own population.

Evidence of present overcrowding in the USA starts with the discovery that many of our utmost necessities like water are in short supply. Fresh water appears during some years to be already insufficient to quench our thirsts, do our washing and provide industry with its water needs. We pollute excessively much of the water that we have and most of it we fail to recycle. We do not know when many of our present sources will dry up leaving us dependent on Arctic ice, desalinization of water or diverting rivers. Such extraordinary projects that are

currently programmed for easing our water shortage indicate one real population problem.

In our country, mild winters and recession seem to be the only things that save us from critical natural gas shortage. In fact, many jobs dependent on gas seem to have disappeared. Our ways of supplementing the supply through extensive exploration, synthesizing gas from hydrogen and coal, production from organic wastes and large scale importation of gas are poorly developed. Then, the costs of these alternatives suggest that we do not need more people to increase the demand for this fuel.

Petroleum deficiency falls into a similar category of threat to our energy supply. We are rapidly becoming dependent on foreign imports of this material for our highly essential gasoline and fuel oil. Even if our population remained the same, our demands for these fuels would increase substantially. We know that the prices will rise steadily. Also, sudden unusually large requirements for gasoline or fuel oil or sudden shut-off of foreign supplies might paralyze our economy.

Alternative energy sources do not offer very much help. We have an inadequate industrial organization to produce enough coal to make up for our energy deficiency. Then, we would need to eliminate the sulfur oxides that might be discharged into our air when coal is used for energy. Solar energy is in the early stages of growth. Atomic power has convinced only a minority of its long-term safety. So, we have many signs of an excess demand for energy at present. And, this demand would increase, even if our population remains stationary. So, we really have considerable energy evidence of overcrowding right now.

An increasing portion of a growing number of minerals that we need for manufacturing must come from other countries. We are not only depleting our own resources, but we seem to be eroding the mineral supplies of other countries. Iron, aluminum, chromium, copper and many other ores must be imported in increasing amounts. Such expanding demand points to an early critical shortage, even if we learn the essential job of recycling more metal wastes. Decreased population in our country would certainly help us relieve these extensive problems.

Our food production, which we thought would always be plentiful, is no longer that abundant. Our agricultural acreage is shrinking and our soil is becoming polluted. So, we must struggle to maintain our productive capacity. We cannot be certain

that weather conditions will be favorable enough to sustain a satisfactory rate of growing food. Then, insects and other pests may introduce new problems at any time. We certainly might feel easier about raising enough food for an indefinite period with fewer people to feed.

We are uncertain how much food, over and above our own requirements, we can continue to raise to handle export needs. Quite a number of people in our USA really do not have enough food to eat. With this unsatisfied demand and our food-raising uncertainties, our food-raising capacity might be insufficient just for our own population. But many other countries have very little agricultural land and are quite dependent on us to supply them with food. For certain, we must trade food with other countries for the large number of raw materials that we must import. Thus, we desperately need excess capacity, which means fewer people.

The severity of our air, water and soil pollution problems is quite relative to our population density. When we have more people in our country, we have more individual and industrial polluters. But, even now we cannot catch up with these wasters, because they are too numerous. Then, we need our power plants, motor exhausts, waste dumpers and pesticide sprayers. Thus, our respect for our most precious possessions must keep us working to control our population.

Our system of training people has always been inadequate for preparing us well to cope with our difficulties. So, we must convert our defective practices over to a system where everyone receives more experience overcoming frustrations. Such training must start with teaching us to recognize every trouble that needs our attention. Our learning process must consist not only of becoming acquainted with tools for making progress, but acquiring skills in the use of these tools. A smaller proportion of children to teachers would make our elementary learning more possible. Also, our expanded education must last from the cradle to the grave. So, all of these improvements in training people seem impossible until we have a smaller number of children to educate.

While looking at indicators of overcrowding, we find that our transportation and housing quandaries almost overwhelm us now. If general prosperity should roll around again, we might be totally unprepared for the mass of vehicles that would be on our streets and highways. Our parking lots might be even harder to deal with. Our housing dilemmas also seem beyond our

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power to resolve. We do not seem able to handle the demand for better places to live that develops just from the present populations' greater expectations.

Our limited measure of economic stability seems to depend on expansion in our numbers. We frequently make our economic plans assuming an expansion in population rather than a fixed human situation. Thus, our essential population equilibrium has critical significance in our economy. But, our need for a stable condition for business must not be allowed to promote population growth. Instead, we must accept the evidence that our country is already suffering from a crush of people.

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Our evidence that we are overcrowded in the USA now makes high population density countries seem like real disasters. And we will have difficulty keeping these disasters from spilling over into our country. We can find struggling countries with densities of people that are 5-20 times that in the USA. Other countries have comparable densities, but with one-tenth the area of inhabitable land. Thus, mankind is approaching a major crisis and we must battle for measures to achieve some reasonable population equilibrium.

Reasonable Means For Population Relief

Our need for population relief gives us no choice but to limit the rate of human reproduction. Killing people or allowing them to die early, as practiced in the past, is not an acceptable means for decreasing population. Certainly as problem-solvers, we dare not relax our efforts to decrease the human death rate. In fact, we must redouble our activities to save people from war, starvation, disease and accidents. So, such work on extending human life continues to make population relief more necessary. We must struggle still more strongly for some reduction in the rate at which babies are born, a highly unpopular program for family life.

Our extreme requirement for a decrease in the number of babies can scarcely get through to our mass consciousness. In all societies, we seem to accent sex in every avenue for human communication. After all, romance is about the whole of life for a high percentage of us. Then, after we get married, we may want children for more reasons than we can imagine. In fact, our having children is absolutely essential for survival of our species and having children can build cohesion in many families. But, the signal is out. Mankind must become aware that we

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must have fewer offspring and we must take drastic steps in this direction.

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Our attack on our population explosion problem must develop various strategies. As a starter, we must disseminate our knowledge about the seriousness of over-population. This responsibility means that we must make people really believe that we must have fewer babies. Next, birth control information must be made available on an extremely wide scope, without discrimination for poverty. Our action must create remarkable sexual cooperation from all human families to slow our birth rates. Attention to population control must be instilled early in our lives. Then, we must prepare people for the pronounced economic and social adjustments that will accompany fewer babies. We need to help mankind accept a lower percent of children and a higher percent of older adults. Here we must support programs to handle the social stresses that might accompany these adjustments. Our job is to help mankind reach an equilibrium that will allow us the chance to make all human life more delightful.

CHAPTER 14

EASING HUMANITY'S DISTRESSES

Why is Problem-Solving so necessary to make our attitudes toward people significantly more tender? 148

The inherent beauty of individual human beings, which we call humanity, has serious problems that demand our utmost remedial efforts. Actually, these distresses may aggravate some of society's perplexities and mankind's dilemmas. In many of us, our warmest and tenderest feelings fail to operate, because of callousness, selfishness or neglect. Too often, our thoughts are on worldly ambition or superficial pleasures rather than deep satisfactions. Repeatedly, we may believe that certain calamities are unfortunate, but beyond our personal help. Often we show a measure of pity for human suffering, while we exert no effort to prevent or diminish these afflictions.

Quite the opposite attitude must permeate our dedication to improvements. Here, any inertia or lack of sympathy toward humanity must be completely absent. Our helping to furnish warm and outgoing relief for our poor human attitudes is absolutely essential. We dare not allow any indifference or insensitivity to creep in and interfere with our acting with increasingly tender feelings toward all of humanity.

More Generosity To Temper Callousness

Painful distresses of humanity show up in the genetically or accidentally handicapped, whose relief presents us with heart-warming responsibilities. Our improving efforts must struggle to make our societies more generous with opportunities for physically disadvantaged. While working on problems, we must provide remedial help in the attempt to fit those with limited

intellectual vigor into our competitive societies. Also, we must try to see that all who need emotional assistance can receive professional care. Our dedication demands that we act with great benevolence toward those who find achievement difficult.

In our belief, we must combat the lack of economic involvement that condemns an astonishing number of us to lives of poverty. If we are in this group and do not receive welfare, we may approach the condition of starvation. At present, our society attempts to set up standards for welfare that enable the poor to meet acceptable living patterns. But, even with food stamps, the efforts seem ineffective. Loafing seems to become a way of life; stealing seems to be the way to get ahead. Such a situation is a tremendous challenge to our skill at making improvements.

We must experiment with many means for fitting everyone into our economy with jobs for all. A minimum annual income with negative income tax for those who earn less deserves serious consideration. Then, exemption from income tax for the first year that a family exceeds the minimum income would offer us incentives for obtaining better jobs. Also, job training might be made mandatory, whenever we give a person compensation for unemployment or welfare. We must struggle to eliminate cults in which people will not work, because society takes care of them, even though they could handle certain jobs.

World Hunger

One of humanity's serious ongoing problems is the reduction of world hunger to a minimum. An astonishing number of human beings have their lives shortened, their mental abilities limited and their emotions stunted by lack of adequate food. As a simple solution, we might visualize our raising sufficient food in advantaged areas, distributing these materials around the world, furnishing poor countries with what we think they need and getting their people to eat these products. Actually, some of this program may be necessary to start our relief of poor nutrition in many places. Stop-gap measures are frequently quite vital. But, a more realistic approach seems essential for the long run. Actually our more realistic program of attack on hunger may require a partial reversal of our initially envisaged plan.

Sooner or later, we must lay great emphasis on dietary education. Our long range progress in lessening world hunger seems to hinge on our teaching all people the essential facts of

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nutrition. As rapidly as possible, we must spread information about what nutrients are required by healthy human bodies and what foods contain these materials. Further, our communication must determine what people eat and how it is deficient, considering the environment. Then, our instruction should make everyone understand the importance of consuming the most strategic foods, even though this means some departure from ancient habits. Most experience with hunger relief suggests that we are largely unsuccessful in the final job, unless the hungry grasp the significance of their health problems. Before we really approach good health seriously, we must start to care about eating better so we can feel better. 150

Our training of people must certainly help them help themselves. The disadvantaged and hungry must learn some agricultural science and technology, so they can contribute to the relief of their own problems. We can help them discover how to raise crops that are better suited to their land and climate. Farm machinery may be made available for increasing the amount of land that can be farmed by one worker. Also, our knowledge of fertilizers and pest control can enable developing farmers to increase their yields. We should make every effort to make people self sufficient in providing food.

All of us need to be better informed about what to eat and drink. We have considerable knowledge about harmful ingredients that we may take into our bodies. As examples, we know that many pesticides are carcinogens and the impurities in many waters are undesirable. Also quality of nutritional patterns, particularly for children, is at a relatively low level. So, our commitment to lessen world hunger calls for us to demand more research on how to feed people while they are growing up.

After we stimulate world food production and spread knowledge of nutrition, we must distribute food in equitable fashion. We must be able to buy the food that we need to supplement what we raise for ourselves. Such buying requires that we all enter more strongly into the world food market. Our needs may require availability of materials from various sources. We must also control our world population explosion as we realize that we must have sufficient food for each person.

Fewer Disasters For Human Beings

In our belief, we must work strongly to prevent inhumane assault on weaker people. Some parents become so angry at children that they beat them until they must be hospitalized.

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Youth may receive such unreasonable punishment that they become brutal. Husbands still beat wives with considerable violence. So, in order to deter such merciless treatment, we must work strongly for better training of adults who are starting homes. All of us as parents need instruction in how to build a beautiful relationship with children. Married couples generally require more experience in creating cooperation. Thus, our responsibilities must reach out to restrain any form of savagery that tends to destroy the home.

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We must help develop greater restraints for anyone becoming sick and dying prematurely from negligence. Too many of us believe inhumanely that deadly diseases are just part of life. Also, we may think that preventive measures deserve little consideration, when they interfere with our habits. What if we get lung disease, cancer, alcoholism, heart trouble or diabetes; after all we enjoy our smoking, drinking alcoholic liquors and eating fats and sweets. But, after we sensitize our feeling with human compassion, we must work to restrict these self indulgences.

Many bacteria, viruses and harmful materials that we encounter rather casually cause damage to our health. So, we must participate in movements to prevent or postpone all tragic human ailments. Our social pressure must encourage the discovery of cures for all sorts of sickness. Then, health care must become available for all of us whatever our ability to pay for the expenses. We must become more deeply involved in improving good health.

Our astonishing number of serious accidents must stir us up with more concern for the human victims. Each year in the USA we have over 26,000 deaths and 4,000,000 injuries in our homes, over 14,000 deaths and 2,000,000 injuries in industries, over 50,000 deaths and 2,000,000 injuries on the highways and over 22,000 deaths and 2,000,000 injuries from other accidents. This information means that we must take drastic measures to decrease these assaults on humanity.

Prevention of some accidents must be possible through establishing some simple rules. As an example, by chance we discovered that lowering auto speed limits to 55 miles per hour enabled us to save around 10,000 lives each year. Still, our efforts to decrease numbers of accidents and their severity have only started. Our next drive must be to discover new safeguards and to obey every rule that protects us from harm. If we can train people to regard safety as a major problem that must be

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solved, we will make sizeable steps toward warmer human feelings.

Special calamities afflict humanity in ways that must arouse greater sympathy and stimulate expanded study of preventive measures. We must obtain more information about causes of fires and must train people to prevent these disasters. Our dams that store water must be engineered to be safer and more frequently inspected for damage. Hillsides may need to be protected from torrential rains. Tornadoes and hurricanes, which result in much destruction, call for buildings that will resist damage from wind. We must also study the possibilities of preventing the start of these highly destructive storms.

We have the obligation to support all studies that have the possibility of uncovering earthquake information. Among our natural calamities, earthquakes may have the greatest potential for damage and loss of life. So, we want to know where and when an earthquake might strike next and how severe the shock might be. In addition, we must promote the construction of earthquakeproof buildings wherever underground faults threaten to become active.

More Humaneness For The Birth Of Infants

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While mankind requires fewer babies per family, humanity demands that a greater percent of us have high-grade normal births into beautiful homes. Then, we would arrive on earth with physical, mental and emotional capacities comparable in quality to those of our parents. A maximum would have a minimum of genetic handicaps. As we arrive, we would quickly feel considerable compassion in our surroundings. This tenderness would give us endowments that would enable us to act as effective problem-solvers in our complex world. These requirements for births give us special responsibilities in our struggle to ease humanity's distresses.

Our treating births rationally requires some elementary understanding of reproduction. Each human fetus results from the union of an egg with a sperm in the upper part of a female uterus. Egg and sperm nuclei each has a complement of forty-six chromosomes, paired in sets of twenty-three transferable singles, one set from each of two previous parents. But, the overall action is fairly complicated.

Following sex union, each of our single chromosomes from one parent hunts down another from the other parent to form twenty-three new pairs. Each of our chromosomes essentially

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consists of giant protein molecules, which we call genes. These genes, half from male and half from female, are made up of simpler proteins that are called DNA and RNA. These latter molecules carry a full set of instructions for growth that determine the detailed character of a fetus throughout its development. But, a major part of the growth process takes place through action of the female carrying our potential human being. Need for this action means that a fertilized human egg is much less a human being than a fertilized chicken egg is a chicken.

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Further details about genes help our understanding of normal growth after conception. Growth instructing DNA molecules are two stranded chains wound around each other in a double helix. These chains are long organic molecules with phosphate side-arms, between which other organic groups form links like rungs of a spiral ladder. Specific location of side-arms and rungs determines what animals we are and what capacities we bring into the world with us. Our DNA, with the help of RNA molecules to carry out instructions, decides our native endowments. If all of these protein structures in our bodies are in proper order, our births can be considered normal. When some damage occurs to these elementary building blocks, our births result in trouble for humanity.

Many types of accidents may damage our fertile human eggs. All too often X-rays or Gamma-rays create modifications in our fetus DNA or RNA and change our genetic instructions. This change can do considerable harm to structures built-up of these proteins, such as genes, chromosomes and the fetus itself. Various chemicals, thalidomide being a notorious example, alter the course of genetic instruction, so that growth creates a badly injured fetus. Viruses from diseases, such as German measles, also interrupt regular development of our human bodies. Growth of an abnormal human being from any fertilized human egg is a problem of grave concern for humanity and all of us who are struggling for improvements.

Fortunately, damage to a human fetus is detectable within a short time after pregnancy. We have sophisticated procedures for extracting amniotic fluid from around the fetus and testing the normality of its chromosomes. Results of such tests disclose fairly accurately, if babies will be normal at birth. With this information at hand and our responsibility to humanity, we must demand that any damaged fetus be aborted. A retarded and disfigured child suffers intolerable afflictions that make its

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birth a savage outrage. Such a painful experience for family and humanity cannot receive our consent.

Our stand favoring abortion of a damaged fetus does not seem to require much defense. Actually, an early abortion of a damaged fetus may assist a perfectly natural process for a human female. Quite a number of these abortions occur spontaneously as miscarriages. Each female has a special means for detecting abnormalities in her fertilized eggs and many times she accomplishes her own fetal expulsion.

Still, humanity faces acute distress because many normal pregnancies are unwanted. The seriousness of this situation rests on the fact that our beautiful emotions demand that we arrive as babies into a warm world that emanates joyous welcome. We desperately need an atmosphere of tenderness and those passionate contacts. But, unwanted pregnancies may number in the millions each year. The most familiar to us are the cases where the birth has a painful emotional reaction on the expectant mother. Conception either outside of marriage or resulting from rape may produce this reaction. Further, some expectant women may not be able to make the emotional adjustment to motherhood.

Early discharge of her fetus simply at the request of a pregnant woman is a highly controversial practice. Those who claim that this removal operation should be available on demand collide with those who claim that abortion is murder. Here, one critical issue is the decision as to when human life starts. This time is obviously not at the point of conception but is before the final birth process. A human fetus passing through all of those stages in our evolution made the decision arbitrary. So, we had to have the U.S. Supreme Court opinion that life does not start until three months after pregnancy. Our decision now has a legal basis.

Another abortion issue of importance is the decision as to when the fetus stops being part of the female body. After all, a female is a human being who might have the right to do anything that she wants with her body. Also, a human fetus seems definitely part of the female body from the point of conception until the umbilical cord is severed. But, in all justice, not that long. So, this second judgment was even more subject to discretionary opinion. Fortunately, our judicial decision now determines when the rights of a female must stop.

A third issue requires some resolution about when the overall emotional problems can be resolved with least injury to

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humanity. Here, abortion during the first six or eight weeks of pregnancy, rather than later, may make the whole of humanity more attractive. All feelings may be improved by such prompt resolution of the problem, when the alternative is birth into a cold or disadvantaged world. Discharge of a fetus during this period causes few guilty feelings among most medical practitioners. Inevitable depressing situations faced by unwanted babies suggest that humanity needs abortion on demand during such an early interval of pregnancy.

Better Starts In Life With Better Parents

Our difficulties related to the birth process are just beginning to receive our most serious attention. Although the arrival of a newborn baby may be a simple incident for many mothers, for others this process is quite laborious. Just the issuance of our new arrivals through vaginal openings may subject millions of babies to various types of injury. Here, we must serve humanity better by promoting means that would save each baby from damage. We are developing new chemicals that make the birth process easier. But, we need to do still better. Our need for better birth assistance may call for additional use of Caesarean operations.

After we arrive in this world, our earliest problems demand the warmest and most understanding devotion by parents. Our difficulties start at the instant that we are born. Physical, mental and emotional harmony with our surroundings is essential. We arrive with many messages to give the world, but parents must help us unlock what we have to communicate. Each of us may be inspiringly beautiful, but, we need loving and thoughtful instruction to bring out our real potential that will satisfy humanity.

Although most of us are born with our physical potentialities unimpaired, too many have senses that do not respond normally. We may have eyes that need correction or ears that require aids or other troubles. Many of these difficulties are hard to detect and parents are not ordinarily on the lookout for them. Thus we must assist in the services that might discover this type of disorder and promote adequate remedies.

Our minds are eager to learn from birth. So, we are ready, willing and able to comprehend some knowledge immediately. But, acquiring new facts and skills depends largely on our becoming ready to receive these perceptions. Thus, we must have parents who present them at the right time and in the right

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way. This inspired instruction results in more rapid comprehension, because we react favorably toward enthusiastic and strategic presentations. Our ability to think grows more rapidly when our early atmosphere is thought provoking. Humanity's possibility for advancement in this area offers a great challenge to all of us who are working on problems.

Very tender association with parents is a vital part of our early emotional lives. We may scarcely understand that we are alive; we have no words for our feelings; we can do little but smile and cry. Still, we do hope that parents will not misinterpret or disregard our calls for help. Thus, if we are isolated, we suffer severe emotional damage. But close contact with another human being preserves us from much of this injury. Friendly noises, pleasant faces and affectionate fondling are vital to maturation of our feelings and even our sensory organs. Communications, through all of these organs, with mother and father help us make rapid progress emotionally.

Problems of discipline for children start early and last for the duration of their stay at home. Here, parents are usually confused by the alternatives, one of strict rules with severe child punishment for disobedience and two of permissiveness—overlooking undesirable behavior. But, as complete departures from these ideas, humanity demands prompt personal emotional reward and punishments for children. Thus, as parents we must be aware of all the significant actions of every child. Then, our feelings must send out messages that we care about these behavior patterns and their impact on human situations.

The emotional reward and punishment process can be a beautiful experience for both parent and child. When we have substantial approval of child conduct, as parents we must show our special pleasure by expressing great admiration by every possible means. If we have ordinary assent for behavior, our attitude must register this accord through affection. Also, where we feel minor disappointment in the performance of a child, our feelings must indicate this dissatisfaction. Then, in case our negative reaction is very great, we must communicate this shock by expressing great grief, rather than resorting to violence. If we love each child dearly, give it good examples of conduct and practice our emotional reward procedure, humanity may be greatly improved.

Severe problems confronting humanity in the unfortunate treatment of children always have avenues for improvement. We might initiate compulsory educational programs for parents of

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newborn babies. Then, if skillfully taught, these supervisors of new arrivals on earth might display fewer faulty practices. However, we should not be too optimistic. Results of general studies uncover a tendency for parents to raise their children the way they were raised. Girls with poor mothers usually become poor mothers; boys with poor fathers usually become poor fathers. Such repetitive tendency may override instruction unless parents acquire deep motivation to solve humanity's difficulties. Thus, our pressures for more tender and careful treatment of those who are just starting their lives must be built deeply into our human beliefs.

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An increasingly high percent of us are too old to look after our own basic needs. We may not be able to do our simplest tasks; our lives may be troubled by ailments; our food preparation problem may be quite frustrating. Such helplessness calls for special assistance, because we usually have not been able to save enough money to pay for essential old age care. But, volunteers provide an astonishing number of these humanitarian good turns for the aged. Also, we develop programs that have government pay for some of these services. Still, problem-solvers must keep working to expand this tender care.

We must struggle to provide opportunities for our elderly to continue working on problems as long as possible. Even when we become quite old, our hands may be able to do interesting arts and crafts. We must participate in discussions of issues to keep our minds alert. When any incidents arise that stimulate our beautiful emotions, our lives continue to be worthwhile. Thus, we must help human beings to become involved in remedial activities to the end.

As elderly, we require deliverance from isolation and neglect as persons. We need people to talk to even when we are so old that our conversation is not very sensible. Companionship is a vital part of our lives clear up to the end. Thus, humanity demands that some efforts on improvements promote pleasant associations for those of us who have lived for a very long time.

As we approach the end of life, pathetic helplessness must not be forced on us for any appreciable time. After very many years, our physical, mental and emotional lives may become irreparably damaged by age and illness. But humanity seems to be best served, when we permit ourselves to die before we become vegetables. So, in our belief, we must allow our lives to

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end before our physical mental and emotional selves weaken to the point of non-living. Self-euthanasia even seems to be a way to build human tenderness and to decrease unnecessary suffering. Directing that our supporting machinery be turned off can be quite a help to humanity.

Stronger Protests Against Man-Made Violence

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Man-made atrocities are problems for humanity even more than for societies, mankind or the species. As we try to elevate humanity, we dare not acquiesce to any human agony even from the sidelines. The massive violence of World War I dulled our senses over Russian Communists killing millions of bourgeois. Our isolation during the great depression made us inert to Hitler's killing millions of Jews. Then, our overlooking the slaughter of millions on both sides during the separation of India and Pakistan did not help humanity. Our stand for the warmest and tenderest feelings in the world of nations must be stronger than in the past.

Our improving sensitivity must compensate for the massive suffering that we have been responsible for. The intensity of World War II did not provide adequate excuse for Hiroshima and Nagasaki. We have had little justification for becoming allies with all of those tyrants. We must make amends for Franco in Spain, Medici in Brazil, the Colonels in Greece, Thieu in South Vietnam, Aga Khan in Pakistan and the military government in Chile. Our furnishing arms for the massive killings in Bangladesh seems beyond vindication. In retrospect, our large scale bombing in Vietnam and Cambodia must leave considerable feeling of guilt. In fact, such shocking actions are highly confusing to other nations as to what respect for humanity we really stand for in the world today. So, in our belief, we dare not give assent to our participation in any such massive viciousness against humanity.

While humanity is sending out loud cries to stop killings, we must concentrate on preventing all wars. War is a distorted state of mind and emotions that forces us to retaliate as a false means of protecting our country's safety and honor. Further, war is an admission that massive killing of human beings is acceptable, if only we are attacked. Thus, our tender emotions can survive the trauma of these large scale killings only by blending hatred, fear and a special type of patriotism. So, in our belief, we must

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struggle strongly to check these fears and hatred as well as to halt the creation of enemies. We cannot hold the line for humanity against this killing unless we are working with vigor to beautify our human emotions.

CHAPTER 15

RELIEF OF DIFFICULTIES FACED BY SPECIES

What can we do in Problem-Solving to remove some defects that mar the image of human beings and threaten our survival?

Some human beings have made remarkable material and political progress, yet have not achieved substantial stability on earth. Our future generations may have mixed impressions of our species in the twentieth century. Our image, while it shows mechanical brilliance, will certainly display poor attitudes, weak application of abilities and unsatisfactory cooperation. Even now, we are doubtful of our ability to avoid cataclysms initiated by ourselves.

Thus, in our belief, we must work strongly to make human beings more admirable and durable. We must continue to struggle with society's perplexities, mankind's dilemmas and humanity's distresses. Also, our efforts must build a more powerful cohesive force to hold us together on our earth. At least, we must repulse every threat to human survival. Besides, we must demonstrate that human beings are worthy of remaining on earth, because we are capable of achieving increasing abilities to deal with problems.

Improved Image Of Our Species

If we want our species to appear more vigorous, we must get busier working harder improving our human prospects. Any detached view of our stumbling around baffled by mental and emotional dilemmas does not develop a good image. Such a poor view of people seems to center in too much apathy, inadequate training and insufficient experience. To fill in our

time, we may spend our efforts on trivial or even damaging activities. In revising this picture, our job is to make human beings look better by increasing our skills in coping with difficulties.

Our remedial efforts must help create a more refined picture of human beings as people who enjoy better relationships. Our species would look better, if we got more delight in knowing each other. Frequently, we have obsessions with self-interest that shows up in many of our attitudes. Our accomplishments may generate conceit that spoils the overall effect. A competitor's good fortune tends to induce insane jealousy in us instead of determination to do better ourselves. We may think that any failure of our efforts is someone else's fault, which is an excuse to drop out of a project. We can even be selfish enough to refuse to pay for services that benefit everyone, including ourselves. In contrast, when we are dedicated to working on human problems, we must strive to give all others a break. One of our principal purposes for action must be to build fellowship among disordered people.

We must have freer flow of communication and interaction, if we make human beings into a more attractive species. Our current lack of interaction does not produce the world unity that we need. Instead, we build all kinds of barriers to training, opportunities and recognition for various races and ethnic groups. We can invent many excuses for lack of harmony among people, like "we must hold on to our culture." Some of us exclude ourselves from the mainstream of social progress by turning-down interaction and declining involvement. Others of us present special communication problems, because we are unwilling or unable to listen. Probably, most of us are prejudiced into thinking that various groups are not as intelligent as we are. All of this fragmentation is a great challenge to problem-solvers. Our concentrated efforts must focus on joining all people into a one-world community.

The image of our species must not suffer so much from our indecent treatment of our beautiful planet. Apparently, we are bent on destroying much of what makes our earth a wonderful place for us to live. To correct our destructive tendencies we must keep our air from becoming so irritating. Also, we must take steps to preserve the natural beauty of deserts, mountains, beaches, forests, rivers and interesting formations. In addition, we must conserve our natural resources by using them wisely. Waste must be recycled as completely as possible. We must

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appear to be determined to make this planet an increasingly better site for human habitation.

We have an obligation to develop a higher degree of friendly human cooperation. Our species will not have a well-deserved command of earth until we learn to work together in better joint operation. Improved collaboration is needed at every level of our social organization. We must do a better job of pooling our economic efforts. Producers, laborers and consumers must work together; cities, countrysides and recreation areas must join forces to help each other. We must have greater reciprocal trade and social interaction between countries. The full significance and possibility of interdependence must not escape us. To improve our human appearance, we must cultivate friendliness and must see that all people participate in world advancement.

Our general indifference must receive an injection of deep concern for rapid advance toward human magnificence. Any indolence must receive a sharp stimulation to develop greater remedial performance. When we lack sufficient skill, we must struggle to acquire more training for progress. After we have the ability and achieve some success, we must become anxious to make more improvements. We must keep trying, because experience gives us remarkable instruction in making things better. Our human difficulties must never appear to be too puzzling for us to take a step upward.

Greater Assurance of Human Survival

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One of the objectives that we must work on with great intensity is increasing our assurance of survival as a species. As we might well know, human beings are their own worst enemy. Presently, we seem to have a firm grip on our inhabitation of earth. But, this appearance may be quite illusory, considering the delicate balance that probably determines our stability. Simple permanence of human abode on earth requires strategic equivalence of births and deaths. We may need extraordinary insight and understanding to achieve this equivalence. Keeping our birth rate as great as our death rate may be impossible after we make our earth uninhabitable.

Among lethal possibilities for our species that we must try to anticipate are exhaustion of some critical earth substance. We must even attempt to determine periodically if we have adequate amounts of some necessities. At least, we must monitor such materials as oxygen, carbon dioxide and many proteins. Where shortages of essential materials seems possible, we must

make drastic efforts to maintain a good supply.

Our opposition must be vigorous to human beings carelessly taking their own lives with damaging chemicals. If our pollution of our air introduces a toxic chemical, we must struggle to eliminate this material from our atmosphere. Where our fresh water becomes so contaminated that it is unfit for drinking purposes, our action must help stop this poisoning process. Also, we must not let fouling wastes run into our oceans until these great resources of the future become cesspools. These giant receptacles for refuse will not hold an indefinite amount of our discarded rubbish. Poisoning of soils and crops must not make our food threaten our health. So, we must find safer ways to save us from our insect enemies. With all of these special materials around, we must work hard to avoid self-destruction from poisoning.

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Our survival must not be threatened by genetic or other damage to our species from radiation. We know that some radiation from outer space would be quite injurious, if allowed to penetrate our atmosphere. While we are analyzing our difficulties, we must determine how serious the damage might be and what gases provide our safeguard. Our atmospheric ozone layer must furnish part of this protection. So, if expanding gas released from spray cans attack this ozone, we must stop the use of this gas. Then, radioactive radiation tends to increase in our world and we must monitor this source of damage quite carefully. Where we carry out atomic bomb tests and where we store radioactive wastes, hazards to life may become quite substantial without a lot of our hard work.

Now human beings have developed a rapid way for our species to commit suicide. At least, we have the atomic bomb, which is capable of obliterating all of us quite quickly. Before World War II, one large military bomb was able to wreck one or two buildings and kill a few dozen or so. Then, this deadly war came along and scientists with technologists developed our suicidal capabilities to excessive efficiency. Any conjecture about the total damage that we could do with one atomic bomb comes out leaving us staggering. We cannot even believe that the neutron bomb would do much less harm. So, we know for certain that we must exert maximum effort to control this awesome destructive power.

However preposterous the idea of an atomic war might be, the threat has become an actual nerve chilling menace. This situation has developed with the creation of our North Atlantic

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Treaty Organization along the western boundary of Russia and the existence of China along much of its Asian borders. Here, our NATO forces are well equipped with our atomic warhead missiles and China probably has a number of these bombs. In addition, we have numerous submarines that are equipped to fire deadly missiles from any place in our oceans. As a result, Russia has regarded itself as largely surrounded by atomic enemies and has expanded its nuclear arsenal at an enormous rate to largely catch up with our substantial stockpile. 164

Our deadly bombs are already in place and are aimed at strategic targets on both sides. Which means that some of them are pointing too near each one of us. Also, more sophisticated delivery systems are appearing almost annually, while we show minimum concern. Obviously we are not aware of our danger, as the most advanced species of animals on earth proceeds casually in our daily routines under the enormous black shadow of suicide. If we were fully conscious of the extraordinary hazards to human life, we might not sleep well at night.

Military information reveals that a one-megaton atomic bomb has about fifty times the destructive power of the Hiroshima bomb. Then, we can remember that this Hiroshima bomb killed about 100,000 people and injured some 400,000 others. But, right now, our side might have some 6,000 to 7,000 of these one-megaton bombs and we think that the other side has a comparable number. Also, some estimates suggest that we can fire 500 one-megaton bombs at the cities of Russia, with our missiles, during a five-day war. Variable guesses indicate that we might snuff out the lives of 70 to 100 million people. Contamination and disease might easily increase deaths on the other side to 200 to 300 million. Then, Russian ABM defense would distribute our atomic explosions all along our missile paths. So, we would be killing lots of other people.

Missile firing of atomic bombs would naturally occur from the other side to add to the devastation. Here, in the USA and Europe, we cannot assume that our casualties would be less. So, our estimates of total losses might reach 400 to 600 million human beings who would be killed promptly and many times this number who would suffer horribly from our atomic war. Neither side could stop the firing once the first missile was triggered, which might be largely accidental. We would not be able to determine who was winning and who was losing the war. No one would be around to participate in the unconditional surrender after the holocaust. Such massive suicide of our

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species is so vastly savage as to be completely ridiculous. Still, why do we have these bombs around, if we are not going to use them?

Nature May Not Always Be So Kind

Pronounced increase in the average earth temperature would tend to make our planet quite inhospitable. Then, if the ice at the poles was largely melted, we would not have nearly as much area as our present land for human beings to occupy. And, the remaining cultivatable land might suffer from too much rainfall. Thus, we may need to give up burning fossil fuels that increases the concentration of the heat-absorbing carbon dioxide in our atmosphere. Or, we may be forced to grow enormous amounts of green leafy plants that would take up our excess carbon dioxide and release oxygen. We do not need any thickening of our heat blanket that would cause an increase in our earth temperature.

We have other problems with nature that require careful study to preserve our existence. Earth getting quite a lot colder would certainly not be very pleasant. We would have considerable trouble surviving, if our land became covered with glaciers again. Even violent storms that occupied the whole area of earth might decrease our durability. And, severe earthquakes would also make our stay on earth less pleasant, if they became widespread. The conclusions about our stability are quite clear. We must become more familiar with our remarkable planet and plan on adapting our lives to its changing conditions.

Evolution Into An Advanced Species

Our problems are so confusing that we might want to achieve evolution into an advanced species capable of greater cooperation. In our belief, this objective is not as impossible as it might otherwise seem. We are discovering a great deal of knowledge about what determines the genetic patterns of various species. Our chances of finding out how to change our DNA and RNA so that physical, mental and emotional skills are improved seem almost possible. Then, we would be obligated to experiment on our selves to test reasonable ideas.

Studies of our new species need to disclose improved physical, mental and emotional skills for relieving personal difficulties. Our superior beings must create better families and more democratic societies with more nearly equal opportunities

and more widespread individual rights. This new form of life must be highly sensitive to its balance between overcrowding and survival. Our tests must indicate that our advanced species can learn how to progress faster.

CHAPTER 16

RELIEF FROM POVERTY OF IGNORANCE

How can we bring better order out of confusion in the realm of knowledge and understanding through Problem-Solving?

Any lack of progressive spirit is quite a hindrance to our accumulation of knowledge and understanding. Then, our lack of knowledge and understanding is a decided handicap to human progress. Improved human comprehension and improved human performance seem to go hand-in-hand. For instance, we know a great deal about material things and basic scientific principles, because for many decades we have been busy learning about matter and energy. As a result, we have many adventures in the realm of technology. But, we know relatively little about human thinking and feeling, because our efforts have definite limitations in these areas. We may recognize that our extracting ourselves from human troubles depends on accelerated learning of basic principles of life. Now, we must realize that our struggle to extract ourselves from human difficulties is our best hope for relief from poverty of ignorance.

We Want To Learn More

When we are actively working on human improvements, we are naturally anxious to acquire more information and better perception. No matter what our capacities might be, none of us are as ignorant as those who do not want to learn. We must have the desire to get charged up to some intensity before knowledge penetrates and understanding develops. This type of self-motivation may have various sources. But, most of our drive-to-learn falls under the simple heading of needing to know more about the difficulties that we are working on. We are more eager to

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learn, when we require the knowledge and understanding to solve our problems.

Desire for more knowledge and understanding seems to grow with its acquisition. The more we learn, the more we want to know. This expansion in our motivation for mental activity with the penetration of new light originates partly because ignorance disguises our problems. Enlightenment discloses more shortcomings in our human situations, which challenges us afresh to relieve them. Understanding helps us find solutions, which makes the challenge more exciting. Such stimulation for our learning process means that we must discover more about how the Universe works quite continuously. Knowledge appears to be the balloon that blows itself up and our belief provides the air that occupies the inflated space.

Unearthing And Retaining Information Better 168

Our belief helps us bring to light facts that otherwise might be concealed by unrealities. We have distorted much of human experience and have retained more myths about values than fundamental principles about how things work. Thus, our problems may not be resolved any better unless we learn more about the realities of human experience. And, our ignorance may result to a painful degree from our not being able to recognize information that is already available. Hard at work on problems, we must discover what failed and what succeeded in the past in making progress and why. Thus, when we become more skilled in coping with difficulties, we can unearth this buried information more easily.

Sheer mass of some knowledge tends to conceal valuable facts, unless we look for useful material for making improvements. Much other information may be contradictory and quite incomplete. So, when we are using new ideas for a purpose, we must screen the useful from the mass of useless data by applying reasonable tests. Here, abstracts and quotations may be helpful in exposing real facts. Thus, we must learn how to find all kinds of informative briefs. While we search for these important facts, our most valuable help often comes from our experience looking for information. Few are as well informed as those who have participated in searches for enlightenment.

Using information in our work on improvements helps our memory retain these facts. Many things that we should know we have simply forgotten on account of neglect. Our human memory seems to retain knowledge for a limited time only,

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when we do not use it for a useful purpose. But, when we are actively applying this knowledge and understanding, it can stay with us much longer. Fortunately, we can frequently recover our memory, if we need our forgotten materials for action on improvements.

In our struggles, we must not cover up knowledge just because it might be used against us. Many of us tend to suppress facts that might enable anyone to make a negative judgment about what we stand for. Outside of the gossip group, most of us keep information to ourselves that gives us an advantage over others. Certainly in business we try to maintain a competitive advantage by concealing discoveries. But, in our belief, our responsibility is to disseminate real facts, while we probe openly and screen what is largely propaganda.

More Relevant And Intimate Instruction 169

Misdirected guidance that may occur in our homes to control us as children requires our remedial efforts. Many valuable principles are too complicated for us to grasp in these years, unless presented in an intimate loving manner. We may receive the unfortunate warning that, if we refuse to do what parents tell us to do, something magic will punish us. The warning that, if we do what parents tell us to do, we will reap some unrealistic reward, is equally unsatisfactory. In fact, irrational teaching in the home may expose us to all of the superstitions of our parents. We can scarcely escape from this type of instruction without being exposed to the delights of working on many difficulties. Caught up in the excitement of improvements, we may learn to do as instructed, because we may see that this will make things better.

Our grade schools must avoid adversary instruction, before our education can satisfy our need for greater skills. We may start to school with every stage of motivation from zero to extreme fascination for learning. But, the system usually provides for our having only a narrow range of learning rates for each subject. Thus, if our ability to grasp knowledge is handicapped in any way, most schools do not stimulate us to learn very much. From grade to grade we may sit through classes in a stupor, falling further behind each year.

Trapped by impractical and impersonal courses, we might as well say farewell to formal training. Our inadequate exposure to need for learning does not allow useful information to get through to us. Such educational dilemmas baffle society, unless

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more of us determine that schools must train all of us better for working on difficulties. Thus, our responsibility is to see that not one of us is bypassed by any relevant and intimate instruction in our schools.

We must question the modern urge to teach more and more highly technical subjects at lower and lower levels in secondary schools. Such courses bypass more useful training with complicated ideas that are simplified too much to be valuable. When we think of the important human problems that we did not study in any high school curriculum, we realize what we missed. As we recall those secondary courses in Atomic Physics and Bouleian Algebra, we know about undue simplification. Just spending time acquiring knowledge that we will never use is relatively nonsensical, because we will soon forget it. Then, our greater misfortune is to miss many personal experiences in coping with important human difficulties.

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While dedicated to making human improvements, we naturally work hard against the spread of illusions. In our lives, we must adhere strongly to established knowledge and understanding, but must discard fantasy and hearsay. Without reason, popular astrological soothsayers develop patterns for our lives and even prescribe times for various jobs. We may also be given incantations for eliminating misfortunes and charms for bringing prosperity. Fortunately, our experience struggling with difficulties usually gives us considerable skill in making more rational predictions.

Our remedial struggles help us overcome the confusion of strange myths that are advocated by various other beliefs. From many of these sources we hear stories of supernatural creation and necromantic protection. Their magic cures and ethereal heavens introduce an amount of confusion that deadens action on problems. Then, these imaginings seldom receive adequate symbolic interpretation that might make them useful. Here again, our critical tests of ideas usually liberates us from such deceptive teachings. Our own search for knowledge must concentrate on uncovering significant ideas that can guide us rationally in our personal lives.

New Basic Knowledge And Understanding

We must understand that our belief envelops the whole realm of science. While we know a great deal about physical matter and energy, our accelerated drive in various branches of science is enormous. Projections for our future scientific revelations

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seem to be useless. Still our next breakthrough is altogether natural and is not at all mysterious. We know that we can uncover only a fraction of possible information about the Universe in the objective realm. But, after each significant discovery, our minds open up great visions of new scientific possibilities. Many rush to carry out further experiments on the front line, while others labor to fill in by-passed studies. Excitement builds increasingly rapidly; important results pour out more and more quickly. Our basic knowledge and understanding of matter and energy escalates with amazing acceleration.

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Our studies roam over the whole realm of living things probing eagerly for revelations. We realize what infinitesimal knowledge is known about self-animation. Life itself is one of our greatest conundrums. While each stage of life is baffling in its complexity, development from one stage to another is more confounding. By the time our basic studies reach the higher animals, possibilities for learning and understanding seem enormous. In spite of these complexities, our discovery of what makes things grow and reproduce progresses fairly satisfactorily. Steadily and with increasing speed we unfold ideas that are useful in our efforts to understand living things.

New basic knowledge about human beings comes to light as we apply our principles of living to ourselves. We learn certain rules about feeling physically well through general scientific studies of the human body. But for verification, these results need to be tested in experiments on our own bodies. Our uncovering principles describing how our intellects work requires systematic investigations of mental processes. Then, before these ideas can be ours, we must try them out on ourselves in learning new mental skills. In addition, our discovery of practical guidelines for our emotions calls for organized exploration into human feelings. Still, application of these principles to our own lives is necessary to make them useful to us. Our escape from ignorance about ourselves involves dedication to working on our own difficulties.

We acquire more basic principles of working together in our societies by practicing cooperation. In many human relationships joint operations are not well developed, because we emphasize competition with others. Outside of our struggles for improvements, we seem slow in learning how to work together. When we are quite active in our efforts on joint problems, principles of friendly collaboration reveal themselves promptly.

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Experience struggling collectively with our social difficulties develops valuable training in unity.

Our societies desperately need greater skill in getting along peacefully. Through the UN we make a few steps upward with our international agreements, but the going is slow. Our bilateral attempts at world accord sometimes help relieve world tensions and sometimes lead to situations like Vietnam. We even have some understanding with communist countries, although SALT often gets stalled. Prohibitions are hopefully in effect against: military activity in the antarctic area, nuclear explosions in the air and outer space and ocean floor placement of various weapons. Still, our troubles in getting any agreement in the Middle East indicate an old principle, "if we want a peaceful world, we must keep working at it." Only through tremendous continuous efforts to improve our inter-society relationships may we be able to build basic knowledge and understanding of world peace.

Better Controlled Variables

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Some unchecked information and poorly tested ideas may appear to be useful clear up to the time we try unsuccessfully to apply them to our problems. After we try to use this information, we may discover that it was the product of experiments with poorly controlled variables. This shortcoming means that any old principle that we try to employ may not fit our specific situation.

Before we have information that is useful in our improving efforts, someone may need to repeat some basic experiments. In new attempts to uncover understanding of our conditions, things must be controlled. We must make the variable that we are studying the real variable and the constants of our specific problem as the real invariants. Such correction of old principles after we attempt to use them is the essence of our belief. In our improving efforts, we must continue to insure that our perceptions are more accurate and are based on sounder considerations.

More Useful Form Of Knowledge

We must try to clarify information where valuable ideas are accessible but not in very useful form. Reports of observations that we may want to use may require rearrangement, before we can apply them. Descriptions of experiments may need translation from special language to be clear. In these cases, we must

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get busy and convert what we have available into something more useful. We must bring our belief into play to give us more helpful interpretations of facts and perceptions.

We may frequently request examples to give meaningful form to our information. Our human actualities may need to be simplified with specimens, before we are able to grasp their full significance. Then, remedies for our difficulties come to mind more readily from concrete ideas than from abstractions. Also, when we have plausible general principles with graphic illustrations, relationships between events become more intelligible. This search for clarity connects us directly to our experience coping with difficulties.

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We have the additional responsibility to see that information is not isolated in the minds of few people. Most of us are aware of both our own lack of knowledge and the special expertness of others. As a result, we frequently turn our serious difficulties over to experts. Such decisions may be wise, where we remain definitely in the picture to learn all we can about what takes place. But, the general idea of evading liability for understanding tends to remove us from reality.

The vast majority of our problems demand that almost all of us have some familiarity with facts and general principles. In our participating society, we are the ones who must make most of the better decisions about remedies for our difficulties. Reasonable proportions of useful information must be for all of us and not just for experts. We must struggle with great commitment to eliminate the differential training that sets those who continue to learn apart from the inactive.

CHAPTER 17

BETTER JUDGMENT

How can we develop skill in our judgment, unless we have experience making wiser decisions, which is essential in Problem-Solving?

Living in our modern world places considerable responsibility on our judgment. In setting up goals, multitudinous decisions arise during our developing years. Effective plans for what we expect to achieve in life do not emerge without our skillful evaluation of various possibilities. So, we need increased wisdom in designing programs for what we hope to accomplish. Through our more careful appraisal, we have greater opportunity to advance during each step along our human pathway.

Fortunately, we can acquire better judgment through greater experience in making sensible plans and wise decisions. Our better choices rest partly on increased knowledge and improved understanding. But, even our intuition expands through experience of direct participation in human enrichment. Thus, our judgment naturally grows keener as we struggle harder to relieve human difficulties.

Better Analysis For Decisions

Improved judgment depends on increased analytical ability that we can acquire while working on problems. When we confront a difficulty, we must determine what is wrong. Then, all of those questions about action, if, which, how, when and where arise with confusing persistence. Shall we do something or nothing certainly must receive an answer. If we resolve to go ahead, we must decide what action we are going to take.

At this point, we must select the detailed procedure that we

think might give the desired results. Our fixing the time to start and the rate of carrying out the action must follow. Then, we must arrange the surroundings and the background, which go far to determine the outcome. Breaking up our decisions into these segments goes far to increase our chances of arriving at effective conclusions.

Wiser Plans

When we are mapping out strategic courses of action in solving problems, we must learn to design wiser master plans. Our programs for improvement must follow better reasons for our choosing the various difficulties to remedy and our trying the remedial methods that we pick out of the list. Our selecting more sensible procedures for carrying out the action helps train us how to reach better conclusions. Also, we must have more strategic reasons for adopting time schedules for our procedures. Even the places for carrying out our various improvements require determination based on better understanding. Our wiser planning of overall decisions may be one of our best opportunities to develop better judgment.

Making improvements in the fine points of planning to relieve difficulties builds good judgment. Each step must have its plan, which provides many ramifications for our decision making. But these variations can be important. Some choices require much preparation; others require prompt and fast action. Some courses of remedial action are long term; other improving efforts are short term. This variation in type of planning can make our judgment highly flexible. With this training, we can develop greater ability to detail our programs.

More Useful Evaluation

We cannot expect our starting decisions to carry us along the whole course of any experiment. Our need for better judgment continues throughout any program of coping with difficulties. After each step is underway, our judgment must come into play to check on how we are doing and to evaluate the results at this point. We hope for success, but do not lessen our interest in the outcome just because our experiment has started to move. At every opportunity, our belief gives us special motivation to keep our judgment of progress improving.

Even though our efforts are successful, we must explore what changes might give us faster advance or greater achievement. We might be able to touch up our master plan, so it will be more

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effective. Some slight reorganization might contribute to our remedial efficiency. We must not get lost in a jumble of insignificant successes, when improvement in our programs might produce acceleration in progress. Our better evaluations, which are essential in our belief, can help strengthen our skill in making supplementary choices.

Our principal object in making critical judgments about our test results is to detect when something goes wrong. In this case, we must show sufficient objectivity to perceive the failure in our plans. We must show the necessary wisdom to admit our temporary shortcomings and make new decisions that might turn the course of events around. Such evaluating judgments are special requirements for our dedication. Thus, our belief has extraordinary usefulness in making wiser decisions, when we need them most.

More Resourceful Action

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After we make our evaluation of progress, we must show added resourcefulness in continuing to work on a problem. In developing this special ability to handle the persistent situation, we must learn more about how the difficulty arose and how the remedy works. Any new decision must unfold in a condition of increased knowledge. Also, we can make wiser choices, when we have greater insight into what is going on. Our judgment of any new action depends greatly on improved understanding of total problem and possible solutions.

Our greater ability to meet doubtful situations depends on our expanding all elements of strength in our belief. Our better judgment of what to do about our troubles demands greater practicality. We can use more of the expediency that we must inject into our improving action. And, our remedies need to create more built-in tact, so we can exercise increased finesse in making improvements. Through our efforts, we must show greater determination to make progress. Also, our action must display added enthusiasm that creates more vigor and spontaneity. These elements of increased strength are compelling doctrines of our belief. Thus, greater dedication to solving problems may be our most hopeful approach to better judgment.

CHAPTER 18

FEWER UNREASONABLE PEOPLE TO BATTLE

Can we surmount roadblocks and avoid under-reacting or over-reacting to our difficulties without joining Problem-Solving?

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Relief for all of our human problems requires careful analysis and persistent pressing forward toward rational solutions. Still, many of us do not want to do anything about matters that might require a lot of effort. A few react to any undesirable situation by advocating action that swings over violently in an opposite direction and escalates our difficulty. Also, quite a number of us neglect most problems, while we apply considerable effort to our favorite difficulty. As a result of this irrationality, many troubles become quite oppressive before we do anything thoughtful and sane about them. Still, in our struggle for advancement we must try to control the under-reactors and the over-reactors. We must work strongly to develop broad, smooth and uniform progress. Such action demands warm, intelligent and steady pressure for improvements on a united front.

Smaller Number of Maladjusted

Without our devotion to steady uniform progress, we may show many traits that depart from the completely reasonable. We may make good grades in school, while we neglect our health, living on soft drinks and sweet pastries. As capable athletes we may have healthy bodies, but may be content with poor personalities. Even though we are important members of our neighborhood, we may refuse to participate in essential community activities. Our lives may be devoted to running

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business enterprises, so we do not develop our artistic and cultural skills. But, if we are conscious of our responsibilities for broad participation, we will not put up so much resistance to uniform progress. Our uniform drive for rational growth seems to arise largely as inspiration from our remedial efforts.

We may display various discriminatory practices, if we do not have complete dedication to improvements. We may be tender and loving to our close friends, while our reaction to others may be distinctly unfriendly. In our little group, our actions may be honest and sincere, but toward outsiders we may lie and cheat without remorse. Often we appear to be great philanthropists. Except on closer examination, we turn out to be covering up unsocial activities with minor charities. At work we may be reasonable, only to become nasty and stubborn when we get home. Friendly treatment of all people needs a much greater following and our struggle for improvements gives us the necessary training. We may not even have any of those unfortunate repressions to "take out" on someone, when we are busy working on our many problems.

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Where our remedial work has relaxed, many of us allow our societies to create unreasonable gaps in social progress. We have fairly highly advanced technology. Still, our distribution systems for goods and services are almost as weak as ever. Affluence resides in our suburbs, while desperate poverty remains in our slums. Our social security program has developed fairly good headway. But, inflation makes incomplete any means for providing retired people with adequate incomes. We give enormous assistance to various industries through subsidies and government contracts. But, we do not control our unemployment problem. Actually our highway and freeway organizations approach masterpieces of human resourcefulness, while public transportation baffles our ingenuity. Until we can get rid of these maladjustments, we will continue to have confrontation with unreasonable people.

As we concentrate on improving the relations between those of us who are different, we may be able to decrease the amount of irrationality in our society. Occasionally we give adequate recognition to people of different races, as long as they are outside of our country. In fact, we have spent tens of billions of dollars and many thousands of lives trying to protect those in Southeast Asia from Communism. But, minority groups inside of our country do not fare so well. Here at home, our appreciation of equal opportunities for education and economic well-

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being for all of us leaves much to be desired. Such equality cannot be expected, until all social problems receive more of our deep concern. Thus, the active belief of more of us must prescribe this deep concern, before we treat all people everywhere more decently.

When we are out on the front line helping mankind, we know that our population explosion will not solve itself. But, if some awareness of the complexity of this problem has not reached us, reasonable attitudes may have escaped us. Effects of decreased proportion of children and increased proportion of senior citizens may not have penetrated our consciousness. So, we may still refrain from teaching our children to have fewer children of their own. Thus, we must work strongly on this awareness problem, before the effects become more serious.

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Our population concentration difficulties are as baffling as our controlling our total numbers, as long as we remain unreasonable. We have made a start on redesigning cities, so they are not too unpleasant places to live and work. But, we do not discover any means for restraining us from flocking to these centers of population and defeating most efforts to make them attractive. Our advantaged people tend to concentrate in the suburbs, where they must commute to the inner city; our disadvantaged tend to collect in the inner city, where they must commute to outlying factories for work. Considerable maladjustment occurs here, until we can expand our improving efforts to deal with the modern city.

We may need considerable training in coping with difficulties to avoid unreasonableness in treating our infants. Our warmest and tenderest feelings may have maladjustments, as shown by our many attitudes toward the very young. Our efforts have made progress toward insuring that babies live, even when born prematurely. At the same time, we have not devoted equal energy in making certain that babies are normal at birth and arrive in loving responsible homes. We have great responsibility to fill in this gap of human feelings encountered by our newly born.

Our experience working on problems may be essential to keep our children as objects of our sincere affection. Most of us may think that our children are the cutest things alive. But, without our belief, we may lose control of ourselves and treat our offspring quite cruelly. Frequently, we are unable to apply effective restraint and direction to their activities. Then, we display unfortunate shortcomings, if we do not teach them to

work on many types of problems. What we fail to do may contribute more to their poor training than acts of physical violence. But, we must know how to accomplish improvements ourselves, before we can teach children this valuable skill.

Even calamities and atrocities may kindle our tenderest emotions more, when we are dedicated to do something to relieve them. Any catastrophe that occurs nearby may arouse us to grave concern, while one that takes place thousands of miles away may leave us cold. Our feelings of compassion seem to decrease in intensity with increasing distance from a disaster. New outrages may arouse our sympathy, while we may be insensitive to old ones that have been around several centuries. Our problems that we overlook for a long time no longer seem important. Then, when our enemies commit atrocities, we can become quite infuriated. But, when we or our friends are responsible for malicious acts, we can develop all sorts of excuses and apologies. Our best protection from overlooking distresses is complete immersion in our belief. 180

If we save our environment from unreasonable people, we may be obliged to spread our doctrines of coping with difficulties much further. Here, our biggest problem may be to trace down air pollutants and demand that they be removed from that gas that we breathe. Without our vigorous action, nitrogen oxides, ozone, sulfur dioxide and sulfuric acid will continue to irritate our eyes and noses. We may need to harness solar radiation and wind before our air is really clean. In our struggle against the unreasonable, we must also work hard to prevent waste from killing our rivers, lakes and oceans. Our action might collect most of the organic part of this waste and make natural gas out of it. Then, we can electrolyze the water and get hydrogen, which is a remarkably clean fuel, and oxygen, which can be used to clean up the water for recycling. Further, our soil that suffers from erosion and depletion may respond to reasonable physical rejuvenation. In fact, all of our ecological troubles may be waiting for more practical people to bring about relief.

Our most important test of adjustment for people in our society must measure their dedication to peace. Those of us who have the most experience working on problems will struggle the most desperately to prevent the next war. Definitely, we must battle any unreasonable fear of some enemy. Here, our efforts in coping with difficulties will build communication that creates better harmony among nations. Then, we must join

forces with all who are trying to prevent international conflicts. Our struggle for peace calls for more action on world unity as our most urgent pursuit for human sanity.

Less Conventionality

When we are struggling with problems, we do not hold on to old practices and ideas as a matter of course or just to conform. Too many of us, who are unreasonable people, want to deal only with what we have experienced in the past. We may develop such dependence on formality that it becomes preoccupation. Our adherence to custom may have such enormous rigidity that we want to do what others do just because they do it. Thus, conversion to a belief in the necessity for human advance may be the only way to escape from such habitual resistance to improvements.

We have little fear of change, as we work vigorously for progress. But, an astonishing number of our resisters to change are simply afraid of something different. Any unknown may have a tendency to fill us with apprehension. Then, our having something new, which might work to our disadvantage, may be the thing that is frightening. Certainly, many of us want our value systems to remain unaltered for fear new standards will be less pleasant. In this setting, nothing can remove our fears like the experience of struggling to make improvements.

During our concentration on advancement we strongly desire progress, but have no undue expectations. Still, without this dedication our refusal to accept a move toward change may result from our lack of confidence in the proposed action. Trust is difficult for some of us to develop, after we have suffered from misplaced confidence. We do not recover faith easily, when we are not involved in remedial struggles. But, our experience with improvements teaches us trust and persistence in continuing action. Where new ideas are being tried, we must try to surmount failures whatever the cause by demanding more effective measures.

Our demand for knowledge and understanding of difficulties certainly makes us less conventional. Possibly we resist changes most often, when we are ignorant of the problems and what new proposals might accomplish. Suggested social changes require explanation and projection before any of us can become enthusiastic about their possibilities. But here, our belief can be quite helpful. If we have a problem, we must become aware of it through commitment. If someone suggests a proposal for

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relieving this difficulty, we must carefully test it theoretically and practically on a small scale. We must not allow ignorance to build any tendency to conform or resist change.

Elimination Of Taboos

When involved in making improvements, we must have logical reasons for forbidding any human practice. Still, astonishing numbers of us are fatalistic enough to raise mysterious bans against change. Our ideas may be that some Divine Will has decreed our difficulties and we as human beings can do nothing to relieve them. With this attitude, we can easily excuse our inaction by simply expressing hopelessness and our need for suffering. We may even worry about supernatural reprisals, if we make improvements. Now, the principle that we will always have human problems is a basic tenet in our belief. But, the idea that we must not try to relieve these difficulties is completely foreign to any problem-solver. Coping with difficulties is what makes our lives exciting. Thus, while getting involved in our struggles, we must not be held back by any prophets of doom.

Problem-solvers meet strong opposition from people who arbitrarily know exactly what to do or what not to do. Those of us with rigid thoughts about what is right and what is wrong may not support any departure from these ideas. Our absolutely certain convictions that are not reasonable build up enormous resistance to change. We will not admit that another idea might be better; we will not carry out experiments to determine which of two ideas might be better. In contrast to this rigidity, after we experience the fascination of working on problems, any arbitrary resistance to change must disappear. Any capricious prohibitions must lose their blocking power. And, our responsibility must become overpowering to press upward and develop better standards for what we do next.

Halt To Our Swinging Pendulums

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In our remedial efforts, we must try to keep irrational people from making our situations much different but no better. Any pendulum-like over-swing in treating our difficulties is a source of great confusion. But, before we can forestall such over-reaction, we must learn to improve our situations smoothly and with finesse. In our belief, we usually discover that an over-swing to the exact opposite is not as good an answer to a troubled situation as a step upward.

We often give our children inadequate training in coopera-

tion, as a result of unreasonable over-reaction. Under past circumstances, our parents may have treated us rigidly and even brutally. Then, with a pendulum-like over-swing, as parents ourselves, we allow our children to do almost anything that they wish. To our surprise, our permissiveness usually does not improve childhood performance. We missed something in this over-reaction. Apparently, while we are growing up, we have tremendous need for learning to do many things under loving supervision. Our only way to eliminate undesirable traits that we get from the extremes in training children may involve teaching them to solve many problems.

In our belief, we must work for schools in which the quality of instruction is better and the motivation to learn is greater. Our education in districts where people are poor is usually inadequately financed and lacking in inspiration. In the past, we have maintained that these districts cannot have as much tax money as areas where people are rich. Then, as an interesting over-swing, our judicial system orders us to bus children of minorities into schools of the more advantaged districts. And, of course, some children must be bussed in the other direction. Not surprisingly, this enforced distribution of students to various out-of-community schools seems to work very little better than the old scheme. The quality of our education is still overlooked. And, reasonably compensated education seems necessary to provide particularly high quality instruction for poor areas. But, we cannot expect our efforts to be greater where our need is more demanding, until we are dedicated to relieving these difficulties.

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We must resist irrational swinging pendulums in the realm of economics, which move us strongly toward government enterprise. Private enterprise has always shown considerable irresponsibility and has always needed subsidies, controls and supervision. In response, unreasonable segments on our political left propose that we turn ownership and operation of businesses over to government. Such unwise swing of our economic pendulum would discard the boldness, efficiency and flexibility of many private enterprises and replace them with the timidity, complexity and rigidity of most government projects. So, our struggle for a more effective hybrid economics requires considerable dedication.

Our economic pendulum shows up again, when we overlook the necessity for government as a stimulator and referee for business and demand less government instead of a more effec-

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tive partner in our economy. We need governmental help in disputes between management and labor; we require an authority to protect consumers against producers; we must have government to guard our environment and plan special economic expansions; we are dependent partly on governmental research to make up for economic shortages; we must have government take part in international agreements. Thus, our economic sanity is dependent on our struggle for better distribution of money, goods and services as an enormous problem of overall cooperation.

Administration of justice must be more reasonable, if we achieve more improvements and less over-reaction. We need our codes of human conduct that appear as legal rules. These laws are almost certain to get more numerous and possibly to get more complicated. To halt the pendulum swing, we must avoid passing punitive laws against every performance that some people dislike. Our laws are not very effective in suppressing all such action, even when we designate it as criminal. Our courts are more crowded; we put more people in jails; we have more criminal minds appearing on the streets; our authorities exceed more constitutional rights in attempting enforcement. Here, our over-reaction seems to be emphasized and our improvements seem to be missing.

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We may require rather pronounced enrichment of our educational processes to aid in establishing reasonable justice. Seldom do we train criminals so they overcome their illegal behavior or make them compensate for their damage to society. But, this effort might slow our over-reaction. Most of the time we neglect preventive approaches, such as detecting potential law breakers early and decreasing their criminal motives. Still, restraining illegal behavior may be our best convergence on justice. Though, desperation may need to set in before we realize that rehabilitation and prevention of criminal behavior are important objectives and get busy working for such goals.

Less Preoccupation With The Spectacular

When we are dedicated to coping with all of our difficulties, we must not get trapped by unreasonable pageantry. Our tendency to put on special shows reaches into every human area. And, some of these extra events add color to our lives as well as opportunities to perform. But, our elaborate displays serve to make us exhibitionists instead of realists looking for critical improvements.

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Our important service of transporting people around the world needs to be kept within reasonable control. Improvement in air transportation through government subsidy has advanced our world communications considerably. So, our flying by airplane is going to expand, although relatively few of us take advantage of this dramatic mode of travel. But, noise around airports jars our nerves unmercifully. Also, the length of time that it takes to reach these take off points indicates our lack of air travel organization. After we get to the end of our six thousand mile journey, we usually need help in time orientation. We could even hope that our air trips might be safer and less expensive. If we really want improvements, these are the problems that we should be working on.

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Such improving action places us in opposition to those who demand supersonic transport. These speed demons want to increase the swiftness of our travel to three times the velocity of sound. Our SST flights would be noisier for us on the ground, less convenient for our getting to more distant airports, more difficult for time orientation, more expensive for fare and more doubtful as to safety. If we are to save ourselves from such unreasonable proposals, we must require that all air travel problems be studied carefully. Calming our inter-society competition in travel speed may be essential for slowing down our embarkation in this spectacular.

We must resist being carried away by super spectacular projects in space. Earth satellites are valuable for communication purposes; observations of our earth from high altitudes may supply useful information about weather, hurricanes and earthquakes. And, space science deserves help from government in obtaining information for developing theories of the Universe. Still, our priorities may have been in the wrong order, when we spent tens of billion dollars over a few decades making visits to the moon. Also, the information that we are getting about Venus, Mars and Jupiter may not be urgent enough to warrant the magnitude of our current space efforts. We have many other difficulties that demand our immediate attention.

In our belief, our greater efforts must focus on projects of greater precedence. If we had spent half of this space exploration money and brain power on improving education, our imaginations can conceive of possible fantastic accomplishments. We can always use more financial support for relieving problems of training people. Then, if some of these space exploration funds and this scientific understanding had found

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its way into research on generating power, our energy outlook might be more hopeful. We would feel ecologically and economically more secure, if we had better prospects for clean useful energy. Our logical arrangement of difficulties in order of importance calls for greater experience in making improvements.

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CHAPTER 19

PROGRESSIVE STANDS TAKEN BY MORE OF US

How can we and our societies make progress, unless we take positions on more issues while exercising our belief in Problem-Solving?

Outside of our belief, many of us will not stand up and declare our positions, when questions come up for discussion. We leave expressions of opinions to others, while we watch from the sidelines. Often by inaction, we simply go along with the assumed majority or give passive acquiescence to whatever happens. Still, much failure to maintain a position cannot occur among problem-solvers. Our spirit of involvement must overpower either apathy, resignation, timidity or simple slowness in making up our minds. Our enthusiasm for improvements leaves no room for static inertia on important human issues. We have no alternative, but to reach a progressive conclusion, to reveal our opinion and to invite more enlightenment, so we can acquire better ideas.

More Of Us Are Highly Concerned

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With our dedication, we dare not depreciate our troubles and claim that they are not as important as we know they are. Some of us may pretend that only a few difficulties are critical. This type of inertia comes easy, when we are getting along well and we think that others are getting along well enough. As an example, we may have grown tired of the urban mess and merely moved to the suburbs leaving our cares behind. But, when our lives are absorbed in making everything better, we cannot show this apathetic pretense. We must abandon any

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heedless make-believe and face up to all realities of our troubled world.

Any unconcern, arising from the idea that our difficulties are well deserved punishment, must disturb more of us. Unfortunately, many of us feel that some human beings do not deserve treatment with warmer emotions on account of their wickedness. As long as people merit their troubles, we will not speak out against tyranny or engage in relief action on various problems. But, our belief rejects any such idea and demands greater effort on improvements as a necessity for better human life. We become immune to indifference, because we care enough to help put all progressive ideas into practice everywhere.

155 Fewer Timid And Fearful

Stepping forward and expressing our ideas often takes the courage that develops with experience working for improvements. When we are naturally timid and fearful, we are likely to remain quiet and say nothing out of habit. Then, our apprehensions may arise from not wanting to be different from the crowd, which usually has a hard viewpoint to oppose. But, our fears may be in us, even when the crowd is absent, due to training and example. Past experience with expressing our ideas may have been unpleasant and instilled anxieties. Thus, we may need to dedicate our lives to the human struggle, if we want to take more positive progressive stands without natural fears.

Our working on some problems may keep us silent on others. We may be afraid that taking an additional stand will call for our assuming more hard work and we do not want any more commitment. Simply being too busy may keep us from speaking out, when we might otherwise take a stand. But, we have many ways of giving approval to progressive measures without getting highly involved. And, all improving efforts call for us to greet them favorably, while we search for various means to supply support.

Our taking stands on issues are particularly important, when these questions deal with our relationships with other countries. But, if we are afraid that we might appear disloyal or unpatriotic, we are liable to keep quiet on quite important issues. Great numbers of us know that wars must not be allowed to develop. Yet, in this group, most of us are too timid and fearful to demand that peaceful means be found to settle international differences. All of us, in our right minds, know that continuing

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our arms race increases the chance for world conflict. Still, our anxieties do not permit us to make strong requests for arms limitation. We seem to be afraid to let anyone think that we might trust an enemy. So, before we can quiet our fears of being outcasts, we must commit ourselves to approaching all problems as challenges for advancement.

178 More Rational Decision

Most of our human issues call for considerable thought and imagination, followed by resolute action. But, many of us do not take such progressive stands, because we are too ignorant to make up our minds. Such indecision may be the result of either insufficient information or lack of understanding about what is under consideration. Before we are able to decide what we want to stand for, we must determine probable cause of our difficulty and possibility for success of various remedies. Thus, our greatest stimulation for decisiveness may lie in our struggle for rationality that we develop in our work on difficulties.

When we face more profound decisions, we must exercise greater remedial skill from a position of wiser common sense. Some of life's choices are quite permanent and are not easily opened up for revision. As examples, selecting a life work, choosing a marriage partner and determining the number of children in a family are among our most baffling decisions. And, we must try desperately to make these choices correctly. Thus, many resolutions require all of the preparation and study that enable us to reach our most rational decision. Our more difficult problems just take more time and effort for us to exercise our better judgment.

More Experience In Taking Stands

When we are busy working on difficulties, we are more apt to express our views, because we are more experienced taking progressive stands. In the relaxed world, our failure to take stands on many issues may largely rest in our inexperience with involvement. We may have made up our minds and we may not be afraid to say what we think. But we may hesitate to express an opinion out of inertia. We are not accustomed to participate in collective judgments. Into this situation, our belief provides us with the greatest experience standing up and speaking out. In addition, our experience gives us the training that we need to volunteer our views with enthusiasm. We express our opinions so often that we cannot let another opportunity to take a positive progressive stand slip past us.

CHAPTER 20

DECREASED I-MUST-WIN OBSESSION

How can all of us win, unless we are competing with ourselves in Problem-Solving self-improvement?

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Too many of us accept that competitive "every one for self" slogan and struggle madly for more wealth and more prestige than others. Our ambition may be to reach the top of our business or social organization by beating all rivals. Rudely, we may even think that our opposition was unfair, if we do not win. At the other end of the compass needle in our belief, the competition is different. We transform our lives into contests in which we try to outdo ourselves. Our real satisfactions rest strongly in all kinds of human improvements that result from our cooperative efforts with others. We may let competition with others serve as means for determining how much improvement we have made or how to make our advance faster. But, while we are working on difficulties, our struggle to excel ourselves is what counts. Our concern must be for helping more effectively to make all kinds of human progress on an indefinite basis.

Assuming More Responsibility

In our fantasies, we expect complete fairness and courtesy in our competitiveness contests throughout life. Actually, we had better look for these traits among our believers in doing better. Otherwise, we may find only those who esteem a winner so highly and consider a loser such a failure that beating others is all that counts. This "I-Must-Win" attitude lessens our desire to play any game completely inside of just rules. In fact, we may not even wait to see if we can win our games by playing fair. So, our cheating-to-win spoils too many games with too many fouls.

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In contrast, the responsibility of problem-solvers reverses this attitude. Our obligation to win from ourselves erases any incentive for failure to observe all of the rules.

Each action that we may adopt for coping better with some difficulty may have techniques that we may learn from those who are more skillful than we. Surprisingly, though, many of us think that we must win from others, even before we learn the game. Our winning becomes an obsession; our losing becomes a great discouragement. Fortunately, we can discover that a good way to learn how to do something better is to play against someone who beats us, while we observe the winner's superior technique. But, we may need to devote ourselves to making human improvements, before we become more interested in learning than winning.

Our working on problems allows us to escape preoccupation with winning and opens up the satisfactions of cooperation. Before we can accept any mark of distinction, we must develop more responsibility for having our superior skill. Any type of personal triumph obligates us to become generous with our special talents. We must compliment, encourage and help those who are less successful. In addition, we must have the real modesty that searches strongly for ways in which we can do still better ourselves.

More Concern For Improving Self

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When we are busy working on problems, we sometimes become quite critical of winners in general. But, many uninformed worship winners, just because they can win. Without appraisal of fair-play or good sportsmanship, we may just rejoice that our side came out ahead in a game that was won. Such attitude may result from some type of self admiration or may result from our betting money on the outcome. At any rate, any uncritical adoration of winners tends to corrupt both game and players. Fortunately, in our belief, our attitude can reject special reverence for champions. If we get any pleasure over victories, we must demand that the winner measure up to high standards of generosity.

We must evaluate any success more in terms of improved abilities and enriched human situations. Our positions in contests call for restrained esteem for whoever comes out ahead and more praise for whoever makes good progress. Special worship of winners risks the unpleasant hazard of bitter rivalry and clouds the possibility for friendly competition. We have all

together too much animosity now in human relationships, with many people trying to be the greatest. So, our outstanding chance to build up the attractiveness and charm of human life may be to establish the fairness, generosity and modesty of dealing with our troubles better.

While concerned with improvements, we can get great satisfaction from someone who triumphs against great odds. Often, we fail to recognize the meaning of a victory, where the winner had to overcome an enormous handicap to win. Still in our belief, we must realize that handicaps just create challenges to learn the many games of life. Then, we invariably discover that our winner against great odds has previously achieved many successes in self-advancement.

Encouragement For Losers Who Keep Trying

Something in working for advancement makes us play fairly, while we persist in seeking remedies. We cannot always win from others. So, we cannot help pitying losers who use unfair tactics in attempts to win, only to do poorly. Breaking game rules just seems less excusable in defeat than in victory. But, failure to come out ahead is not that discouraging, if we keep trying to learn the game fairly. Actually, our learning persistence makes us obey all of the rules. Our best chance of acquiring greater skills and more understanding is to be quite honest in getting into the game of life with vigor.

If we are going to make any progress, we dare not get angry with defeat. Always our resentment over failure needs to be calmed and then redirected toward improving our inferior technique. Graceful acceptance of our temporarily poor results may be our only way to escape emotional damage. Certainly, guiding our vexations toward acquiring greater skills may go far toward controlling our irritation. So, the best way to restrain our tempers, when we are losing, may involve dedicating ourselves to learning how to do better.

We can be highly pleased that we have a conviction that buoys us up above any dejection. Possibly our most deplorable reaction to being a loser is becoming over-discouraged with ever doing well. If we cannot win from others, sometimes we will purposefully lose badly. After our few failures, we may decide against trying again with even minimum effort. Into such depressing situation, our belief offers great help to temporary losers who keep trying to do better. All we need to do is to keep learning and experimenting and we can make advances. Cer-

tainly, we may not be as successful as someone else. But, we must rejoice over our progress as well as the improvements made by others.

Diminishing Vested Interests

With our dedication, we must not make decisions that are based solely on personal benefits. Also, we need to escape the urge for special privilege on account of the elevated status we might have achieved. When a progressive change threatens our economic or social position, we dare not use this vested interest as an excuse to restrict progress. Where we think that problems pass us by, because we are clever or hardworking, we may resist any improvements that might menace our success. In fact our chief hope for enthusiasm over general social advance may lie in our conversion to remedial efforts. Here, we cannot take special advantage of our own assumed importance. We must get busy on further advancements no matter how the change might affect our status or prosperity.

Actually, we must become anxious for others to have as many privileges as we enjoy. Still, caught up in an "I-must-win" obsession, we may dislike others being raised to our economic or social level. And, if we think that people who are failures deserve their misfortunes, we can be a serious block to progress. With this obsession, we usually have the idea that if those people had our intelligence and industry they would be as prosperous as we are. To escape this willingness to restrict the growth of others, we may require considerable experience working on problems. Our concentrating on all kinds of improvements may be the only way that we can avoid the tendency to keep others down.

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CHAPTER 21

MORE AVAILABLE LEADERS AND MORE EFFECTIVE LEADERSHIP

Why must we elevate those who have acquired great skills in Problem-Solving to places of authority?

Human progress is peculiarly dependent on our collective ability to cooperate in organizations. But, our social improvements seldom occur simply by the overwhelming demand of the masses. Usually, our societies must also have cohesive guidance by those in responsible authority, if we are able to make progress together. Concerted action on social difficulties seems to rely greatly on good management. As a consequence, we must develop leaders with determination, knowledge of difficulties, ability to discover remedies, experience with improvements and the spark that gets progress going. Actually, our day-to-day training and experience in solving problems provide much of the skill that is necessary in this leadership. Also, if more of us receive this training, our leaders are more effective, because we are more responsive followers. In addition, when we are dedicated to working on difficulties, we are better judges of who might give us more satisfactory guidance.

Need For Leadership Qualities

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Most of us are in position to recognize our need for leaders with the highest qualifications. At least, we know that these leaders must be willing to assume adequate authority and provide competent direction for our human action. People in positions of authority must develop effective organizations, make reasonable decisions for doing what needs to be done and supervise our action programs. Thus, if the objective of our

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organization should be to accomplish some improvement, our leaders must know the principles of how to relieve difficulties.

While looking for effective guides for our organizations, we naturally search for someone who has an attractive personality. We really want our leaders to be warm and tender, so they have a strong emotional appeal. Openness is also a trait that we should value highly. Then, we like to have friendly communication with those in authority. Our leaders need the charisma of caring strongly about improving our conditions.

We eagerly follow leaders who inspire trust and confidence. So, those who are effective in command must be aware of our troubles, realize their seriousness and start to work on them. We want our guides to have adequate knowledge and understanding to reach logical conclusions about what we should do. Good judgment and creativity are prime virtues for those in authority, while their integrity must be beyond reproach. Also at our command post, planning ability may be quite a desirable skill. So, our trust that becomes imbedded in credibility seems to depend on those giving us guidance having a powerful progressive belief.

We should be quite pleased, when our leaders show growth in competence. While providing some effective direction is desirable for those in command, we must recognize improvements with special praise. Ability to learn on the job is particularly valuable; development of better guiding judgment is a sign of considerable talent. Our responsibility must include retaining those leaders who become much more skillful.

Development Of Leadership Qualities

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While some of our leadership qualities have genetic origins, probably all of them respond favorably to training. Thus, an indeterminant number of our leaders may be born with skills that we need in places of authority. But, our searches for someone to put in command must look for people who have demonstrated all of the important qualities. The list of these qualities for leadership reads like an inventory of talents that we acquire while coping with difficulties. So, we can hope that those who aspire to public office have had considerable experience in our belief.

Our leaders may have greater skill in creating an effective organization, if they have more experience with progress. If our people in authority have undergone longer periods of developing warmth and sensitivity, they should show this in their

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better guidance. We can expect our leaders to make better decisions, if they have worked harder and more persistently in their search for knowledge and understanding. More prolonged encounters with all valuable qualities for guidance should train us to invent more original programs for social advancement.

We may develop better leaders, if we improve their experiential abilities. Guiding any organization effectively calls for considerable talent in planning activities. Then, members of our group must find out if our progress is real. Thus, those at the top must learn to test the results of our social experiments, so we can measure our progress. Such evaluation procedures should determine any need for emotional enrichment, greater enlightenment or better judgment in the group. Leadership qualities usually expand with any increased capacity to carry out new attempts at improvement.

Greater ability to stimulate cooperation can accelerate development of leadership qualities. Where our leaders fit us into their plans more completely and enable us to take a bigger part of the action, we have strategic guidance. In any democratic society, we must know what is happening at high levels of authority and must assume part of the responsibility for decisions. Our whole society working together gives us our best chance for accomplishment.

Better Abilities To Select Leaders

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Sometimes we can survey officials in public office and imagine that we have been ordinarily successful in selecting our leaders. Our relatively democratic methods of choosing office holders gives us some able people in authority. But, when we examine our overall experience, we find urgent need for better efforts to identify less corrupt and more effective officials. Such a dilemma is just the challenge welcomed by believers in improvements. As they are important questions, we must probe deeply to determine requirements for each government position and which candidate might possess the best qualifications.

Records of performance in our troubled world may be our most reliable source of information on candidates' qualifications and this knowledge may be readily available for governmental executives. Press coverage for presidents and governors is usually enormous. So we can learn a lot about their behavior in office quite easily. Our principal responsibility is to screen out unreasonable praise and unjustified criticism. We need to decide what our elected official did in office and how well this leader

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did these jobs. Our politics also involves comparative evaluations. So, we must make up our minds if any other leader would have done any better. These assessments call for considerable study and analytical skill that we may find only in those dedicated to improvements.

We may have substantially more difficulty learning about the qualifications of legislators from the way they carry out their jobs. Here, our news media may give little assistance with our evaluations. We must find voting records of legislators on the back pages of newspapers and determine what their activities are from bills that they back. But, we may need to do intensive study to find out significant details of their leadership efforts. If our representatives simply take superficial polls of influential constituents back home and support uncontroversial measures, we can wonder at their qualifications. Then, when an election comes up, we need an evaluation of all opponents before we can decide between candidates. We definitely need our experience struggling with difficulties to make reasonable decisions about how to vote here.

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The process of making up our minds about voting on judges for our judicial offices is peculiarly baffling. At the same time, the officials whom we select for these positions may be of critical importance for the justice of our society. Judicial action is so hidden that we need an organization to send observers to visit court rooms quite regularly for the purpose of reporting incidents objectively. Such information should help us form some opinion about the competency of those who interpret our laws. In addition, we require an evaluation of their philosophy and temperament as this information may be our only means for making a decision between two opponents running for office. We have a lot of work to do before elections. Even so, voting for judges may be one of the weakest links in our democracy and is a tremendous challenge to those who are trying to make our government better.

Listening to any campaign oratory gets us nowhere, unless we pay close attention to the sincerity of each statement. If we discover that anyone running for office has practiced deceit, we can expect that this person is addicted to deception; if we find that anyone has been over influenced by special interests, we can assume that this corruption has become a habit. We must listen for indications of how involved our candidates are in improving society and how skilled they are in developing leadership qualities.

Sometimes we can get valuable information about candidates for public office by obtaining their answers to questions. Public meetings of office seekers may really be important. We can get some idea about their openness, when we ask them how they would act under certain circumstances. Then, discussion of our questions by candidates may enable us to assess their knowledge of the problems that they will confront in office. Even the sensitivity of candidates to human suffering may show up in these political arguments.

Growth or deterioration of people in public office must be an important part of any evaluation by voters. In the positive direction, our leaders may acquire greater strength with experience by feeling an increased challenge of their opportunities. Then, if they develop into more powerful guides for our improvement, we can give them relatively high marks. In a negative way, our leaders are demoralized by any relaxation in their remedial efforts. Also, when we detect any loss of enthusiasm for gaining understanding, we can suspect the value of their authority. Thus, we must measure up to our responsibility for recognizing this advancement or degradation in leadership ability as part of our struggle with difficulties.

More People Willing To Be Leaders

We will never have an over supply of effective leaders in any society without vast training in working on problems. Eagerness to assume the responsibilities of positions having authority seems to require experience struggling with social perplexities. We know that, as soon as we are elected to office, crises will arise thick and fast and we must deal with them. Much confusion is bound to develop in our offices. Pressures may mount in attempts to make us do unreasonable acts. We may have trouble obtaining support for our ideas. Few of our followers may understand, when we change our minds and policies to handle difficulties. If unsatisfactory conditions grow worse for reasons beyond our control, the responsibility is ours. Still, neglecting important issues imparts guilt, while getting busy doing something to improve our social situations provides real satisfactions. Thus, not many of us might be willing to assume important leadership roles, unless we are dedicated problem-solvers.

When we really enjoy working on human problems, we make enthusiastic leaders, because here is where our struggle is most exhilarating. With our authority, we have greater responsibilities but also greater excitement. Our positions may make us analyze

critical troubles and may demand that we receive the inspiration of improving understanding. We may be closer to where remedies are initiated and improving action takes place. Also, we are in better places to receive the stimulation of observing the results of relief measures. As our belief becomes more popular, we can expect that our supply of effective leaders will grow. With our fascination for working on difficulties, we may rush to positions of authority.

More Knowledge And Vigorous Followers

Before we obtain the highest quality leadership in our societies, we may need more dedicated followers to help work on problems. Our competent leaders seldom spring up without the backing of able adherents. When more members of our societies are experienced in coping with difficulties, they can do a better job of selecting and supporting those in authority. Our struggle for improvements helps provide the understanding that is essential in this selection and backup process.

In our belief, we must get better action before elections by better political organization. Our responsibility is to urge more competent problem-solvers to run for public offices. We must attempt energetically to avoid situations where our voter's choice is between two relatively incompetent candidates. Our leadership tends to degenerate, when in any election we must choose between "the lesser of two evils." In fact, our maintaining confidence in the process of selecting those in authority depends on our producing more capable leaders. So, we must keep busy searching for potential leaders of superior ability.

After elections, those of us who are dedicated to working on problems must maintain a strong interest in human issues. Our careless or blind political inertness invites tyranny. If we expect those in authority to guide us safely through our problems, they must know that a majority of their constituents will provide some cooperation. In particular, we must back up our leaders, when they work for much needed progressive measures. Those of us who have the dedication to progress are the principal defense against degeneration. Our leaders may never be any stronger than the support that we give them.

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PARENTAGE

CHAPTER 22

FUSION OF PROGRESSIVE ACTION WITH OUR FINE WORDS

How do we create a belief in Problem-Solving, which drives us upward, by simply merging our actions with our elegant talk?

Exploring for origins of our belief, we find that consistency between what we do and what we say is its simplest foundation. We must have our actions out-perform our fine talk. Some activists miss our strong belief by carrying out regressive acts, while proclaiming a stand for progress. Others who are not so active maintain that they are all for doing right, but actually are devoid of doing much of anything except by ritual. In this setting, our belief combines vigorous, warm and rational efforts with our best intentions and any public declarations. Here, we bring our work on problems in line with what we might think would be our best dreams of the future. Then, we support these progressive measures with whatever understanding is necessary to make our efforts as successful as possible.

Realistic Blend Of Action And Talk

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Any self-praise or discussion of our merits does not stand up under critical analysis without demonstrations of performance. If we have the experience of achieving improvements, we do not require any elaborate recognition. If we think constructively about high sounding talk, we begin to realize how flimsy it is. Any self-deception begins to display its trickery; all elements of realism begin to demand remedial action. Even our hypocrisy becomes clear, as our cloud of unconfirmed statements lifts

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above actuality. What we often say about self is what we want to be true, rather than what is fact. But, when we bring deeds and words into realistic blend, our belief in struggling for human improvements comes readily into sight.

While we try hard to make what we say express the truth, we must analyze our conditions quite carefully. If we discover the need for greater accuracy in our statements, we naturally search for greater understanding of our situations. Established knowledge and perception gives us considerable motivation to test our ideas about human difficulties. Then, exploration for greater comprehension brings us deeply into the fold of our belief. 201

If we warm up our feelings for others, any of our self-eulogies do not give us the pleasure of our more tender sentiments. In fact, we may even feel that overstatements of our worth make us seem ridiculous. Our craving for tenderness in our world calls for less talk about self and more acts of compassion that automatically bring great satisfactions. When we concentrate on self-enrichment and indulge less in self-praise, we plunge directly into our dedication to work for improvements.

Our talk about our societies may be equally in need of being blended with substantial involvement in advance. Many of us talk like we are satisfied with our social conditions. Our statements may suggest that our own countries are models of uprightness, that we are always right. At least, we must look after our own interests. Still, even when human circumstances are better in our countries than in others, reality denies us the privilege of bragging about it. No matter how good our conditions are, they are not good enough. Then, as other countries are disadvantaged, we have the extreme responsibility of helping them approach positions of equality. As we work for all kinds of social improvements, coping with difficulties enters naturally into our lives.

Our enunciating positive dogmas without engaging in positive action has created smugness in many religions. We talk like our superior convictions are the whole truth and our arbitrary rules are all human beings need. Our important virtues are supposed to come instinctively. We may claim that unbelievers are lost. So, we may spend most of our efforts getting them to accept our arbitrary rules. Our words may sound like serious human problems can wait for universal conversion or magic ascendance. In spite of such smugness, most of us have greater compassion that is easily aroused by practice. When we act with increasing tenderness, many of us experience the excitement that this

stimulates. Then, we may feel that we must continue to combine stronger efforts on improvements with fewer words of praise.

Some of us may talk like we want to leave the action scene completely and retire to some kind of asceticism. Then our speech may describe our life of "peace," "freedom" or "happiness," where we can avoid difficulties and responsibilities. When we get into our seclusion, life consists largely of onlooking, which may consist of play, business or hobbies. Still, the call for progressive participation can reach us. Human interaction on improvements is very much more attractive than withdrawal. When we feel this attraction strongly, we must head back into the world of problems and get real gratification in working for progress.

Rational Discussion Combined With Progressive Action

When our belief is at full strength, we must try to start verbal agreements and emotional repair work ahead of unpleasant human situations. Friendly communication should precede any disagreement over a point in question; reconciliation of differences should come before anything offensive develops. Thus, we must adopt group discussion, so we can maintain harmony throughout our improvements. We cannot suggest that we know all of the answers and we must listen for inspiration that can help us build unity. When we avoid confrontation and largely conciliate each dispute before it occurs, we may proceed with our remedial action without interruption.

If a confrontation occurs, we must demonstrate our belief by adopting non-violent resistance that involves fast talk to relieve serious tensions. Our words must reach our assailant and develop relaxing feelings that halt any attack. We must continue to talk so anger can cool and reasonableness can appear, while we adjust the irritating differences. Calming thoughts in a soothing discussion may eventually motivate all involved to create a peaceful situation.

We must learn how to appeal more strongly to those in authority about social disorders. But, before our words can have powerful persuasion, we must speak from an effective organization. Such group must be dedicated both to making people aware of social problems and to correcting these troubles. Then, our protests can take the form of our developing useful plans and distributing this information about what might create improvements. Well discussed knowledge about our difficulties

and well understood programs of relief help make our improving action successful.

Simply discussing what we think that we know about a problem may lead us naturally into our belief. We cannot talk very long about any branch of learning without discovering our need for more information. Then, this realization makes us want to learn more. We can scarcely describe a human difficulty with greater clarity and talk about this problem with greater concern without accepting the challenge of finding a better remedy. Thus, our dedication to solving problems appears as a natural result of uniting thought and action on improvements. When our talk and remedial efforts work together, our striving for progress may become quite spontaneous.

CHAPTER 23

GREAT VIRTUES BEING VASTLY RELATIVE

Why does Problem-Solving make us do "better" instead of just categorically do "what is right" rather than "what is wrong?"

Our lives flow directly into our belief, as we discover that great virtues are vastly relative and we can always behave better. No one reaches the top in excellence of human conduct. We may practice good feelings and self denial only to learn that our goodness can always expand until it is still more laudable. Our virtues that come to a standstill lose much of meaning and satisfaction. When we think that we are good enough, our emotions begin to play tricks on us and hypocrisy may take over. If we try to live on the glory of past achievements, our feelings may suffer pronounced decay. Some of us may even struggle hard to maintain a given level of human concern. When we experience the exhilarations that come from warm emotions that get warmer while they drive us upward, we have reached our belief in progress. Real ecstasy develops from continuous improvement in human performance and every virtue needs this growth.

Compassion

We get quite close to our belief, when we discover that our beautiful emotion of compassion can deepen greatly and expand widely. In spite of the usual myths about love, this tenderest feeling is not an emotion that we either do or do not have. We can develop extensive gradations of this warm attachment. Our regard for others can become deeper and more widespread almost without limit, when we practice showing more tenderness.

Simple observations confirm that we have different degrees of tenderness depending on our communication talents. We cannot measure the quality of love accurately, but we can observe its special messages that vary considerably among our friends. How outgoing we are is some indication of compassion and this responsive friendliness is quite a variable characteristic. Still, most of us have seen this trait develop greater strength with suitable stimulation for expression.

Another yardstick for love is its ruggedness or how much opposition it will withstand. We can frequently encounter quite differing degrees of sturdiness in our tender emotion. Here, we certainly would like to have the kind of durability in which love grows stronger with time. In addition, our inner warmth varies considerably in how much it motivates us to carry out more loving acts with little response. Still, our expressions of compassion usually expand, when we get the taste of satisfaction resulting from our persistence in all varieties of kind deeds.

Love occurs in many separate compartments, in each of which warm feelings can grow to substantial proportions. We are usually confused by that enormous division occupied by sexual love, which sometimes resembles seething madness rather than close identity. Our dilemma here is to introduce growing tenderness into our tangle of sexual attraction, as the two feelings do not always go together. But, exercise of compassion can go far to overcome this dilemma. Many of us have observed a remarkable increase in warmth in marriage relationships that have endured.

Although little babies and small children arouse affection spontaneously, we can build up this feeling remarkably. Here, we must develop our greater love through association and contact. Apparently this type of communication is essential for growth of compassion toward very young human beings. After they grow older, we may need to work harder to build up warmth of feeling for children. But, we can stimulate this greater compassion in the course of getting more closely acquainted and helping children learn. This deepening of our feelings for all children is a highly rewarding emotional experience.

Our sympathy toward adults has a number of divisions that offer opportunities for improvement. At least, if a tragedy strikes someone we know, we can become quite compassionate and increasingly so as we get concerned enough to provide help. Where arrogance exists in others, our level of tenderness may be

negative, until we learn more of these people's problems; where enemies threaten, that love-your-enemies admonition may seem like total nonsense, until we start our reconciliation process. Improvements in these compartments of our feelings illustrate an important approach to working on problems that is quite exciting. And, its significance comes through as we absorb increasingly warm feelings, while associating with more loving people.

Any improvement in our feelings of compassion toward human beings requires practice in expressing tenderness. We must speak more friendly words in more pleasant ways to make more loving impressions. Each motion of head, look of eyes, shape of mouth and inflection of voice can communicate warmer meanings. We may need to drill our emotions in every language of love, before we can impart greater friendliness. Also, we need to practice warmer acts of love. Our more thoughtful and friendly deeds may be necessary to reveal our increasing tenderness. By the time we demonstrate expanding affection through performance, we may have immersed ourselves in work on improvements.

We can enhance the significance of our friendliness and kindness by widening our efforts to love different people. If these folks look like they are of our race, speak our language and are near our age, we may develop fondness for them easily. Where those we meet have different colored skin or dissimilar features, our feelings may lose warmth. Still, we can intensify our tenderness toward people who look different by getting well acquainted with them. Our affection may not be strong for those who look like us but speak a different language, unless we create special warm communication. If our associates are older and have a measure of authority over us, we may feel relatively cool toward them without friendly contacts. In reverse, our companions may be in a younger age bracket that is out of range for our deeper emotions until compassion springs up. Where we make special projects out of helping different people, warmth can develop more forcefully across any barrier. Expansion of our love under such adverse conditions demonstrates our belief at its greatest strength.

Mercy

Our belief has another natural origin, as we realize that mercy also comes in steps instead of one big jump. Actually our willingness to give up feelings of resentment has more degrees of

forgiveness than we can comprehend. For most of us, some acts of aggression allow considerable leniency, while others do not allow any at all. Such variation suggests that, by treating grudges as problems to be solved, we can greatly improve our ability to grant mercy. In each case of an offense, we may need to develop a better process of transferring our negative emotions from person to act. Also, we must work on our reprieves with increasing skill as our injuries become more severe.

Our ability to forgive and forget may have age variations. We can usually develop conciliation with people relatively easily during our early years. Then, as our lives become more competitive with others, our leniency may lose power. To build more clemency, we must encourage its growth largely by working in friendly cooperation with more types of people. Our use of cooperation to cultivate mercy leads us directly into our struggle to relieve difficulties.

Power to forgive seems to accompany our capacity for warmth and tenderness. We can pardon people with whom we are friendly and whom we know well without too much difficulty. But, when those who hurt us are strangers and live at a distance, our leniency is harder to generate. Then, if greater warmth does not enter the scene, our feelings of annoyance are likely to remain with those who injure us, instead of moving over to the injury. If we want to inject more clemency into our responses, we may need to recognize the enormous value of erasing unpleasant feelings.

While measuring our skill at forgiveness, the promptness with which we drop our grudges is significant. The time between an act that injures us and our first pleasant smile shows how much we need to work on developing mercy. If we feel unpleasantness longer against those who do us harm, we must struggle harder to return to pleasant realities. Also, our quickness in showing leniency needs evaluation in terms of the seriousness of our injury. Even in extreme cases of damage, we can build up greater speed in showing mercy to people.

Completeness of our reconciliation is a valuable emotional trait that we can improve. We must transfer more of our unpleasant feelings from person to act, if we want to show more mercy. When we reach substantial harmony with our antagonists, our mercy has reached a level of great strength. Most of us must struggle hard to reach anywhere near to a complete adjustment. Total friendly settlement of a serious mistreatment requires all of the strategy and effort involved in our toughest

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problems.

Throughout our human relationships we must forgive repeatedly, even though we make every attempt to prevent repeated injuries. But, we may require considerable experience dealing with difficulties, before our ability to pardon recurring injuries can grow over the years. Such growth demands increasing skill in shifting negative feelings from person who injures us to damaging act. And, this greater adeptness in transferring indignation tends to make repeated mercy more automatic. Then, our improvement in the number of times that we can do our shifting act provides us with greater talent for making progress.

Honesty

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The virtue of honesty comes in every imaginable gradation, which suggests that we should try to do better in this important objective. We set up honor codes according to which, if we trick or deceive each other, we are dishonorable. Also, our legal systems specify that, if we cheat or steal, we are criminals and must be punished. And, these rules may be fairly useful in encouraging honesty. But, our cooperative human relationships demand much greater integrity than these limitations seem to establish. Here, we must trust all of our associates unreservedly, which means that everyone treats everyone else as fairly as they would treat themselves. The possibility of such fairness suggests that we might improve our honesty indefinitely as we enrich our human relationships. So, our work to realize this enriching effect introduces us directly to our belief.

Our vast assortment of trustworthy and untrustworthy behavior has a partial origin in our "I-must-win" syndrome. When we get wrapped up in this attitude, we may feel that we should treat ourselves quite preferentially. We think that we deserve more than others, even when we know that we must be tricky to get ahead of the harder workers. We treat others fairly to a certain degree, if this does not interfere with our winning. So, an important contribution to greater integrity must be self sacrifice. And, we may be unwilling to exhibit much of this generosity until we see it as a valuable remedy for human troubles. The distance that we are willing to go toward widespread friendly cooperation seems to be our honesty variable. Where we determine to spread our integrity further and make it displace selfishness more, we must have caught the exhilaration of making our lives better.

Our personal discrimination may build up all sorts of cases

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where we show preference in our treatment. Any prejudice or corruption can certainly dilute our honesty. We can be fair to majorities and unfair with minorities; we can reward the rich and rob the poor. Our behavior can also swing in the other direction, in which we fail to recognize competence and glory in inertness. Consistent fairness to others seems to depend on how well our honesty is adapted to an improving world. We can expect our integrity to show the least favoritism, when we dedicate ourselves to working on difficulties.

Our social integrity is at a low level when we take advantage of every legal means for keeping the disadvantaged down. Our real obligation is to help everyone up the social ladder. Thus, if we want our group honesty to grow at a reasonable rate, we must not exploit age, ignorance, superstition or habits that enslave. Instead, in all of our attempts at increasing fairness, we must struggle to lessen any tendency to take advantage of human handicaps. So, we must show expanding trustworthiness that decreases its social trickiness, as we develop greater competence in relieving human troubles.

Truthfulness

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The clarity of our statements and writings must be better for their information to be more understandable. Unfortunately, our current practices give our exchange of information decided latitude for making facts simple or complicated. Greater lucidity is almost always possible; obscurity is altogether too common. Where we make every effort to attain a higher level of simplicity in our communications, we demonstrate an interest in advancement.

We intersperse occasional misstatements in our ordinary conversation, when we really need more accuracy. Some of these assertions are satirical and others are unintentional or accidental. Unfortunately, our incorrect statements do not stop here. We tell deliberate falsehoods; we relay rumors that are unsubstantiated; we speak in ignorance without stating our ideas as opinions. Many fantasies circulate through society by processes that confuse facts with untrue statements. When we struggle to speak more correctly and qualify our statements more fully, we exhibit the strength of doing our communicating better.

Concealing information presents many puzzling dilemmas. At times, we are in positions where withholding parts of our knowledge saves tender human feelings from injury. In this case,

we may have the responsibility of guarding those who might be hurt. Suitable judgment for such decisions requires considerable skill in handling difficulties. In other cases, complete disclosure is the only fair way to state our information. Still, we may only tell our side of the real story in order to be impressive. Also, we may fail to include important parts of our whole message in order to mislead or deceive. Our statements can nearly always be more truthful by being more complete. Here, telling more of the whole truth seems to be a product of our progressive involvement.

Truth quite often suffers from our excessive decorations. We surround our facts with ornaments of such imaginary detail that reality scarcely shows through our ornate fog. The impression left by our embellishments may end up being essentially a falsehood. Apparently, we all have need to improve our skill at speaking and writing nothing but the truth.

Loyalty To Important Values

We may exhibit many degrees of loyalty to causes, which deserve our utmost faithfulness. Thus we can demonstrate increased devotion, while we strengthen our allegiance to progress when we face any critical human issue. When well distributed, the total effort that we put forth on human difficulties measures our loyalty to important values.

We can always improve our value standards by rearranging priorities for our efforts. This ordering of our loyalty to values involves scanning all issues and choosing the most important causes for our greatest effort. Such choice also requires consideration of our degree of responsibility and the ease with which we can fit into the remedial work. If a more imperative difficulty shows up, we must shift our emphasis to meet the new need. We cannot remain apathetic; we must take sides in all important controversies. Our search for the best option for our loyalty is an exciting part of dealing with human difficulties.

Our loyalty may have restricted scope of faithfulness to a few crucial obligations and still grow stronger as a virtue. Our country, a close relative or a friend may need concentrated help and giving this assistance may partially isolate us from other causes. Still, while measuring up to these special responsibilities, we can always discover better ways of supporting other issues. Providing special personal assistance seems to require considerable study and allocating ability that only comes from experience.

Patience With Perseverance

Our qualities of patience and perseverance have wide ranges of values, especially in our most worthwhile tasks. Fortunately, while struggling with our difficulties, we build up higher levels of firmness in purpose through this practice. Our enduring hardships without complaints, while carrying on our remedial work, may also be a critical factor in the final results. Our efforts on improvements are almost certain to be more effective when we apply ourselves more resolutely to our tasks.

Greater skill in evaluation and analysis of experiments usually accompanies steadier action without complaints. We can measure the results of remedial efforts better, when we retain closer contact with the action. Our progress or lack of progress is more obvious, if we follow the events with greater constancy. As we observe carefully and without grumbling whether or not our improvements are developing, a higher level of patience may evolve.

Our gaining greater alertness in following the course of remedial action provides training in endurance. While delaying final judgment until all observations are available, we are in better position to search for new ideas. With such persistence, our imaginations receive maximum stimulation for conceiving the next step in our improvement. Here, experience teaches that relief for troubles may not respond well to our best action without vigilant durability. So, our demand for increased perseverance points to our need for better training in overcoming difficulties.

Courtesy

We can certainly display different degrees of politeness and good humor in our contacts with others. Our abilities to transmit good feelings by showing special consideration to others have natural variations. Then, we receive various amounts of training in the art of treating people with respect. But, when we become experienced in making improvements, this pleasant virtue has a tendency to grow substantially.

Our tendency to treat others with respect is quite varied just during ordinary conversation. We can frequently improve our speech markedly, so that we express more kindness. Feelings behind our words tend to show through our rhetoric and indicate a need for greater transmitted courtesy. So, we can make our movement of face, hands and body send out more pleasant messages that may mean more than friendly talk. Still,

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with more attention to vocal amiability, we can elevate our politeness from mere suavity to compassion, and make ourselves more courteous. The degree of courtesy which we inject into our communications is a measure of both strength and direction of our progress.

Courtesy in written messages has equal diversity and equal need for improvement. Frequently, we can improve timing as well as content of letters and notes of acknowledgement. Still, our writing can usually be more gracious. As in conversation, our contrary opinions can better take the form of questions rather than derogatory statements. We can use more friendly and fewer derogatory statements. We can use more friendly and fewer objectionable written words and get our meaning across better. Our more pleasantly worded compositions are of greater help in dealing with people.

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An important way in which we can treat others with greater consideration involves learning to be more apologetic. We all make mistakes and our improved response is to admit our errors more gracefully. We need less hesitation in conceding blunders and expressing sincere regrets for all kinds of faults. Our expressions can be still more polite by including intentions not to repeat our error. Our skill at making improvements advances considerably, when we open up human relationships with honest contrition.

Great advance in politeness is possible through our recognizing the accomplishments of others more freely. More appreciation of abilities and achievements of others may be essential in raising the level of our courtesy. Our allowing each of us to face our own responsibilities and then applauding all positive results gives everyone satisfactions. Possibilities for expanding our skill at recognition seem attainable with little practice. But, we do need to acquire the habit of telling people that we like what they do, when their acts please us. If this aspect of courtesy becomes more spontaneous, we have gone a long way toward mastering the belief in making improvements.

Happiness

A substantial number of us maintain that we are happy without having a clear understanding of this virtue. But, real happiness seems to be a developing way of life in which we take increasing advantage of exciting opportunities for greater involvement in more progressive activities. This ideal variety of contentment is not a static well-being; it is not simply the good

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fortune and prosperity that we can enjoy while just sitting around; it certainly is not our inactive state where we get a tingle from habitual indulgence. Rather our genuine pleasure is strongly related to our belief in making all situations better. To reach our rapture that expands, we must get busy and make our lives increasingly worthwhile.

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CHAPTER 24

HUMAN EGOS DEMANDING IMMEDIATE SATISFACTIONS

How can our creating adequate defenses for our personalities point us strongly toward our belief in Problem-Solving?

The term, ego, refers to the side of our lives that portrays our inner confidence and self reliance, which appears in our personalities together with our particular attractiveness. Our egos include the physical, mental and emotional vigor that results from our adjustment to life's realities. Such indicators of self esteem are similar to our central control stations that we might use to distribute our efforts among our various responsibilities. For real security, our personalities can scarcely have too much feeling of confidence flowing out of these sources of inner power.

Our simple observations disclose many kinds of egos from the vigorous and well adjusted to the weak and defective. In addition, those of us who have a great deal of self confidence seem to be experts at overcoming difficulties. Others who have devitalized self-images display considerable insecurity, when faced with many decisions. But, none of us has an ego with either maximum strength and effectiveness or complete weakness and incompetence. Still, strong or weak our egos cry out desperately for further development and we want it right now.

Attempts to strengthen our egos encounter many unfortunate diversions. So, our demand for recognition now exposes us to an astounding number of second rate pleasures, if we miss the ecstasy accompanying corrective activities. Some of us will do almost anything to attract immediate attention. The more attention we get, the more we may engage in our queer and maybe illegal acts. Our aggressive performances to gain notice

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may even put us in prison. This call of our egos for prompt rewards makes many of us concentrate on tingle sensations. Then, all we may want in life is a thrill of something spectacular. We may think that all we need is a tingle, when we never feel the immediate deep satisfactions of overcoming some serious trouble.

We have character in our egos that shows continuous expansion into profound enchantment, as we persist in our work on problems. Then, this type of gratification grows more intense with our accomplishing various improvements. We do not need our spectacular acts to acquire greater inner personal recognition; we do not need to wait for some future reward to acquire increasing happiness. Immediate satisfactions that invigorate our egos are possible simply in the course of getting involved in remedial action. Our charming development of egos by this process gives our belief in coping with difficulties substantial support.

More Adequate Physical Abilities

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Important facets of our egos reside in the condition of our bodies and this fitness is something that we can improve relatively promptly. Considerable confidence comes from having strong, well-formed bodies, arms and legs. Then, if we develop increasing strength and suppleness, while engaging in special exercises, this improvement contributes further to self-assurance. Additional evidence of such exhilaration may be possible from observing friends who have used this method to get in better physical shape. These results of body discipline demonstrate that all of us can improve physical form and muscle tone through our own efforts. This struggle to invigorate ourselves continuously can enrich our personalities astonishingly and swiftly.

Learning to do special body operations more expertly elevates our self-reliance immediately. As examples, our becoming more proficient in talents such as breathing, running, swimming, singing or dancing can give us substantial assurance. We must develop our breathing operations, so our diaphragms work more effectively, before we can improve many other techniques. To run with speed and endurance, we must discover how arms, body, legs and feet can work together more effectively. Better coordination of breathing with leg and arm movement during swimming can easily illustrate our physical improvement possibilities. Also, one of the more powerful means for building

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confidence is our acquiring greater ability in using our voices for singing. Even learning to folk dance well imparts a remarkable feeling of knowing ourselves. Acquiring competence in an assortment of exciting techniques opens up an enormous potential for our personalities to exude strength.

If we want a dramatic ego boost, we should become more competent in making, finishing or repairing things with our hands. We can start early in life making structures with blocks and toys. Then, the possibilities for improved manual abilities at producing our own creations or fixing a gadget expands enormously through the years. Our work can be in wood, metal or machinery; the operations can be mechanical, electrical or organizational; the action can be building, sewing or cooking. Almost any type of manual expertness can build boldness of spirit and feeling of worthiness, which are what our egos need on a continuing basis.

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Self assurance arises substantially from our adoption of more rational eating habits. Improvement in our diets can have surprisingly beneficial effects on our inner well being. When we eat enough nutritious food, but not too much, we measure up to one health requirement for self-confidence. Also, if we avoid harmful eating practices, we can help ourselves maintain confidence as well as physical vigor. At least, we must refrain from eating foods that give us serious allergic reactions or that are known health hazards. Thus, many of us make our egos much stronger by improving our health with diets that are constantly improving.

Increasingly keen and discriminating senses give us more faith in our inner selves. We can learn about this requirement that our egos have for discerning senses in negative ways, when we lose some of our sight or hearing. Means seem available to slow down these degenerating processes. But, we have difficulty discovering how to retard losses of senses, without running constant experiments on ourselves. Fortunately, most of us can obtain considerable self-assurance from the sensitivity training of our senses. Disciplining our sight so that we recognize grace of form and blend of color with greater discrimination must reinforce our egos. When we gain more refined hearing and receive more inspiration from beautiful music, we increase our inner strength. Continuous build-up of egos by refinement of our senses gives us confidence in our belief in improvements.

Clearer ideas of sex and our own, masculine or feminine, roles in sexual practices makes our egos grow stronger. Ignor-

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ance of something so mysterious, but vastly important, may be a put-down for our personalities. So, sexuality may take over our lives inside or outside of marriage. But, any increased knowledge about the seriousness of the human reproduction process may strengthen our egos considerably. Self-confidence really demands that we become aware of the responsibility that must be assumed by a couple that engages in the act. Here, we learn that this responsibility is so great for all concerned that sexual restraints might well be mandatory outside of marriage. Then, measuring up to sexual accountability may be much more important for our egos than entering casually into any pleasure seeking experiment. Our feeling of competence can certainly expand in the emotional environment of our increasingly beautiful married lives.

More Capable Mental Functions

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Improvement in our mental abilities at any time enters strongly into the reinforcement of our egos. Increased knowledge is a source of great inner satisfaction; expanded understanding instills substantial feeling of adequacy. Also, our buildup of awareness of life's realities goes far toward eliminating fears and stimulating greater progressive action. So, our egos call out for enhanced mental attainments that are possible in our belief on an ongoing basis.

Any claim that our own human efforts can advance our mental competence opens up arguments that may never be completely resolved. Apparently we will always have theorists around who will maintain that our absolute capacities to learn are rigid and unexpandable. But, with factors that we recognize as influencing this capacity, we cannot imagine that such rigid idea is at all useful. At any rate, the charging up process must be part of our overall intellectual capability that our efforts can definitely influence. Our enthusiasm for improvements can augment this intensity to which we charge up our intellectual capacity considerably. So, the use of our minds to improve human situations may be such an exciting tool for mental advancement that our egos must give these efforts great credit.

Greater inspiration for our mental machinery must be possible at every stage of life, particularly in our early years. We know that our absolute mental skills grow rapidly from birth through puberty under normal experience in home and school. And, we have evidence that this growth rate can be accelerated greatly at such age range. Increase in warmth of surroundings

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and better communication of confidence may work wonders. More opportunities to learn at the moment of readiness and more involvement in the use of the materials learned give amazing results.

Experiments appear to show that our mental abilities can be victims of strong expressions of prejudice and discrimination. Minority groups have exhibited lower mental capacity, while living under the influence of greater prejudice. For example, migrant black children, entering first grade in a northern city, seem mentally inferior to locally born black children according to test. But, by the time they reach sixth grade in the same school, these measurable differences may have disappeared. Black children who live longer under northern city environment with decreased discrimination may develop higher intelligence scores. Social surroundings seem to have such significant effect on competence that heredity may account for less than 75% of our mental capacity. Environment may be responsible for fully 21% and accidental factors 4% of our measured intelligence. Such knowledge offers enormous hope for the egos of our children who might be given increased mental stimulation. 218

Sharpening of our minds by improving our health seems to offer an important opportunity for us to strengthen our personalities. For instance, decrease in health and bodily vigor with age may account for much of the decline in our intelligence over our later years. As another example, improvement in our diets with high intake of Vitamin C has raised the intelligence scores of some of us who suffer from such vitamin deficiency. Other food supplements may have beneficial effects under conditions of inadequate nourishment. The extent of possibilities for our sharpening our intellects through enrichment of diets calls for considerable study. Vast numbers of egos may be demanding this type of help that evolves spontaneously from our general activities in struggling with problems.

Those of us who are creative give more evidence of inner well being than the non-creative. Then, when we become more inventive, we are less anxious, more dynamic and more willing to be different. Our imaginations and originality may have some genetic background. But, high intellectual capacity does not seem sufficient for us to be creative. Our groups having members with low creativity contain many of us with high intelligence test scores and those with highly creative people have many with average test scores. In addition, our inventive skills are far from static. Originality is particularly open to improve-

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ment through practice, while we are working on problems. Satisfactions from such expanded creativity bolster our egos considerably and lead us directly into the search for more improvements.

Stronger Emotional Adjustment

Our egos grow in a beautiful way as we raise our more attractive emotions to a higher level. As we develop greater tenderness and compassion, our self-esteems are certain to advance. So, our personalities brighten noticeably as our affections are expressed more deeply. If we are simply more generous, we feel stronger internally. Then, by pardoning others for offenses committed against us, we give our egos a real boost with a buildup of self-confidence. Improving all of our beautiful emotions, which is what our belief in enrichment is all about, really makes us feel exhilarated internally. 219

We can face the realities of life more effectively, if we treat our unfavorable emotions as problems to be overcome. If humiliation and shame assault us, we need only repair the damage to our feelings and we can replace mortification with lack of guilt. When suffering from anxieties and fears, we can cope with them as difficulties and build courage and boldness into our lives. If we start to lose our tempers, we can regard our anger as an emotion that requires analysis. Then, we can express our feelings in socially acceptable ways and become stronger personalities. Especially this self-esteem grows as we find humor in unfortunate circumstances or make amusing adjustments until we remain pleasant. Our ordinary negative feelings becoming more agreeable can be highly exciting for our inner selves.

If we conquer serious emotional ailments, such as boredom or depression, our egos really show an exhilarating response. And, here is where our efforts in working on problems can show some remarkable results. If feelings of frustration appear, we must get busy analyzing our situations and developing more helpful ideas. Then, as we struggle with difficulties, surprising satisfactions tend to replace all serious negative reactions. Our remedial efforts are remarkably effective in converting disturbing emotional states into relatively pleasing ones.

Making Wiser Decisions

Making wiser decisions seems essential for building robust egos and this expanding skill seems to demand that we strive for self improvements. With such dedication, we must use both

mind and emotions in reaching more sensible conclusions about ourselves. Then, our increased wisdom that results from these remedial efforts is bound to make us feel stronger. Better personal judgment in deciding what we should do next, how we should do it and when we should take each step increases self-assurance. Immediate satisfactions that arise from our discovering better individual remedies furnish much needed increasing self-esteem. 220

We acquire additional confidence through expanded participation in making better social choices. Our greater shared experience requires more practice in helping to make wiser group decisions, while working together on global problems. Increased collective wisdom develops from our helping to decide what all of us should do next to relieve difficulties that affect everyone. As we gain greater joint skill in working on these far reaching crises, our egos receive reinforcement that is highly rewarding.

Greater Cultural And Artistic Abilities

Our belief in working for improvements finds support in the vitality that we acquire, while learning to appreciate beauty in cultural and artistic expression. Greater effort and repeated practice in cultural areas, with accent on advancement, expands our egos substantially. Such elevation of confidence occurs also, when we increase our artistic skills by frequent performance with increased expression. We can feel our egos grow stronger, as we become more effective speakers, more powerful writers or more capable musicians. Our self-assurance increases as our painting grows more meaningful, our sculpturing becomes more beautiful or our dancing is more accomplished. Such enrichment in individual performance helps greatly to relieve our problems of self-identity.

Stimulating Effects Of Association

Transfer of ego strength seems to take place by natural flow between two human beings, when the excitement of achieving improvements stimulates the contagion. Truly, we have trouble distinguishing the part of our egos that is genetic from what we acquire by association. But, any intrinsic personality disadvantage is not totally a lost cause. The degree to which we can acquire a stronger personality by close relationship with an effective problem-solver is quite impressive.

Contact between two people who have a close personal relationship may result in either one-way or two-way transfer of

ego forcefulness. When we see others doing helpful tasks, we can learn to render equal assistance by watching. For example, inspiration to give aid to human beings is available by simply observing others having fun as volunteers helping the needy. We can become more attractive by watching others demonstrating personal magnetism. Then, two of us frequently have an interchange of self-confidence through helping each other. We can fascinate each other, particularly when our personalities complement each other. So, both can become better adjusted to life. When we are busy working on problems our personalities are highly effective and are particularly contagious. 221

Most of us crave association with those who radiate positive feelings of self identity. We delight in fellowship with those who are always doing something worthwhile; we feel empty when we have no relationship with attractive personalities. Our demand for ego advancement by association supplies an important origin for our *Problem-Solving* belief with its immediate satisfactions.

CHAPTER 25

DEMOCRACY AND EQUATING INEQUALITIES

How can our expanding human values in our evolving democratic societies demonstrate the importance of Problem-Solving?

Democracy is an expanding ideal that does not describe the whole of any society that exists anywhere at any time. Rather, it is an improving organization of human beings, based on increasing equality, that makes progress, both in its parts and in successive stages, as members get visions of a more beautiful society.

In their relatively advanced stages, which we find in some western countries, our developing democratic organizations offer significant models for others to follow. We usually adhere to a written constitution, after courts interpret the document. Each of us has one vote in free elections, after we get the ballot and if we are willing to register and go to the polls. Most of us have opportunities to acquire appreciable education, when we are sufficiently advantaged and motivated. Each of us has a fairly comparable chance for justice in courts, unless we are poor or over rebellious. Our authority is vested largely in elected representatives, who favor popular sides of issues unless they are corrupted. So, our political struggles are largely over real and important questions. Our government by the majority is even responsible for treating some minorities with a degree of justice. So, we have an increasing measure of equal rights. And, our government of the people, by the people and for the people shows extraordinary possibilities for the future. But, we must struggle for more democracy and against any less of our beautiful society.

We may be able to understand why our democracy is so

reasonable only when we relate it to our belief. Throughout the development of human beings, any principle of equality has seemed like an unfair dogma to many of us who are strongly endowed. With this aristocratic attitude, we have thought that we are superior to others in various ways and should be treated as such. Now, we realize that any concentration of excess political power in one group only fosters abuse of this excess power. By simply rejecting inequalities and stressing our equalities, democracy achieves great social and political strength. Still our beautiful developing structure may need some strong justification for this equating of our inequalities and we can find it in our work on improvements.

Justification For Equality Needs Possibility
For Improvement

We have brought forward many excuses for democracy besides the important one that it is a beautiful and useful idea. For example, all of us having a common physical form has provided some of us with a reason for treating all of us like we have equal rights. But, this inference seems more like a basis for the right to life than a reason for our having equal authority, unless we assume equal responsibility. Also, each of us possessing a human personality might seem to be sufficient excuse for our having equal opportunities. Still, such reason for equality is obscure as an argument, unless we can accept the idea of equal chance for personal enrichment. Then, some mysterious inner quality that might be equal in each of us has been used as a possible defense of democracy. But, even using this argument, our equivalence is difficult to appreciate without some concept of our achieving an equal rate of improvement.

We might investigate further the idea that our possibilities for equal personal advancement is the great leveler of human beings. Here, we discover that we can make comparable progress in many ways, when we have equal opportunities and motivations. Our satisfactions can be quite equal, even when our progress is not exactly equal. Then, justification for our many freedoms in democracy may just require that our belief in coping with difficulties be widely held in order to equate our inequalities. The fact that democracy has such strength as a society gives our belief quite a firm foundation.

Human beings exhibit remarkable physical differences in size, symmetry and general appearance. We have diversity in height of over two feet and inequality in weight of over fifty pounds at

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a given height. Some of us display classic beauty of figure, while others depart markedly from this form. Our features, color of skin, complexion and hair are remarkably different. Fortunately, democracy does not need to depend on any physical similarity of people to spring into existence. But, improvement in appearance can go a long way to inject equality of attractiveness into our looks. Exercise, dieting, cleanliness, grooming, hairstyling and clothing can do amazing things to make us all look equally pleasing.

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When we do physical work, we are certainly not equal. Some of us are able to lift hundreds of pounds; others strain to move a fourth of this weight. Few of us display great endurance, while many tolerate only minor physical hardship. Also, human muscular coordination is by no means uniform and manual dexterity is quite diversified. Again, our equal distribution of political power must have some other basis besides equal physical strength or skill. At the same time, we can acquire quite equal improvement in carrying out all sorts of manual work, when we try hard enough. Physical development of each one of us responds quite well to training, exercise and practice and any improvement can give equal exhilaration.

Wherever we live in this world, our bodily health is quite dissimilar. Some of us never feel an ache or pain and never lose a day from work on account of sickness; others have many kinds of chronic ailments; still others suffer from critical diseases. So, we cannot justify democracy on the foundation of equal soundness of body functions. But, we can find a measure of equality by simply working to extend the length of our active lives. In fact, when we are devoted to human advancement, we must do all we can to learn about our own physical weakness and how to prevent or relieve serious distresses. Those of us who have poor health can at least get equal satisfactions in this critical realm of improving our well being.

Complaints of poor sexual abilities suggest that we have no uniformity in this area of life. Our human sex drive is more diverse than stories of romance might indicate; our instinctive capability in the sex act is more dissimilar than might be imagined. Even expressions of sexuality and actions that attract the opposite sex vary widely. Some of us have a responsible attitude toward copulation and quite a few of us can scarcely think of anything else. But, these differences do not mean that a measure of sexual equality is impossible for most couples. Many studies show that experimental sex in a beautiful home

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can produce pronounced enrichment in all of our sexual experiences. Improvement in this capability is where our equality can make special appearance.

Diversity in our mental capacities may be as great as any of our physical variations. As we know, we have tests with considerable resolving power that are designed to measure these widely differing abilities for mental work. So, we can scarcely place our trust in democracy on our equal intellectual power as determined by IQ tests. Still, we have mind levelers, which do not even need to use the effects of improved environment and nutrition. Few of us use much of our potential capacity and intellectual exercise can give most of us substantial increase in skill by using the part of our minds that we have "put on the shelf." Our increased efforts to apply our knowledge in working on problems tend to improve our mental skills and the rate of improvement represents equalization.

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We have astonishing difference in knowledge and understanding of what is going on around us even among intelligent people. And, much of this divergence has its origin in our background. But, possibly even more of the variation in our comprehension results from our unequal dedication to working on problems. Those of us who need a great deal of knowledge and understanding to achieve our progress will acquire much more than the unconcerned. Thus, we find that our belief is capable of erasing some of our mental differences in familiarity with reality and democracy needs such equalization.

Variation in our processes of charging-up thought may match the differences in our intellectual capacities and achievements. For certain, we show remarkable diversity in desire to start thinking and quite dissimilarity in thought persistence. So, democracy can scarcely be justified on the basis of equality in our desire to start some mental activity. However, our charging up process is open to great stimulation while we work on problems. Thus, our dedication to improvements may give us substantial equivalence in mental motivation and invigoration.

Our current abilities to develop new ideas are far from uniform. A few of us prefer new complex situations and like to think about innovations. But most of us dislike anything unfamiliar and hesitate to reflect on novelties. This degree of independence in perception and thought shows extraordinary contrasts. Thus, our immediate difference in creativity does not serve as a basis for democracy. Still, motion toward equality in developing new ideas seems possible, as we acquire similar

inventive skills through experience working on problems. Certain uniformity in our creativity seems to show up as we sharpen up our imaginations so our inventiveness gains strength.

We display many different emotional responses to unusual conditions. In heart-rending situations, we might generate many degrees of sympathy from great compassion to distinct anger. When our virtue of humbleness is evaluated, our position on the scale may be any value from great altruism to degrading selfishness. When in danger, we may exhibit considerable courage or great fear. As any outcome of our efforts is delayed, our patience may be durable or may give way rapidly to aversion. If emotional tensions run high, our faith may remain strong or may soon turn to worry. Thus, we do not find justification for treating people equally in the quality of these undisciplined feelings. But, with the self-confidence that we get from working on emotional problems, we may all acquire relatively superior feelings.

Equality In Democracy's Three "R"s

We are beginning to comprehend the personal nature of democracy with its equality of "responsibilities," "realizations" and "rights." These factors enable us to blend social equalities, political equalities and economic equalities with a surge for advancement. Now we realize that democracy promotes an enriched individualism that must measure up to an improving obligation to humanity. Our beautiful ideal is a great vision of personal freedom with group cooperation, which demands our constant backing. A constitution may supply many useful guidelines. But, cooperation and impartiality are hard to establish with words written on a piece of paper. We must be steadily engrossed in trying to put into effect improvements in all of our equalities.

In particular, democracy requires equality of responsibility for progress in our human cooperation. We must all get involved in making our society better and must reject mediocrity. Every branch of government desperately calls for dedicated help from each one of us. We may be able to choose our function and we need to work through the bureaucracy. But, all of us must operate in a more friendly cooperative manner to provide progressive action in our society. Such working together requires a high degree of participation, because we share accountability. We are never more free and equal than when we all measure-up to our responsibilities to struggle with our human problems.

CHAPTER 26

VITAL ASPECTS OF JESUS' LIFE AND TEACHINGS

How do the stories of Jesus provide us with some of our most vital demonstrations of Problem-Solving in action?

Our belief in struggling for improvements took a giant step upward with the advent of possibly our warmest world religion. This classical faith, which we call Christianity, has its foundation in the life and teachings of Jesus of Nazareth as recorded in various translations of The Bible. In its *New Testament* we have four relatively parallel stories of Jesus from which our Christian beliefs largely originate. Although details of these ancient writings inject some contemporary magic into these stories, we find wonderful transforming vitality in their essentials. The Gospels portray magnificent examples of Jesus demonstrating his beautiful principles with highly significant actions on human troubles. These accounts of his life clearly portray the spiritual character needed by those of us who would make good progress toward solving human problems.

Our search through the life and teachings of Jesus for a significant approach to problem-solving must take a critical view of all biblical versions. Any intimation that some divine power wrote The Gospels is unacceptable. We do not want to think that one supernatural author wrote four separate versions that are far from identical. Also, our four stories of Jesus seem like such exquisite examples of four different historical accounts of a magnificent hero. Actually, we must not hesitate to give modern day interpretations for symbolic imaginings of all ancient story tellers. So, our inspection of Jesus' way of life must question all obviously unreasonable embellishments in our biblical stories. At the same time, we must probe deeply into his

wonderful dedication. Then, we must eagerly seize and hold on to those beautiful accounts of Jesus making wonderful steps upward. With such analysis, we find that Jesus was one of the world's most powerful promoters of our belief in struggling for improvements.

Life Of Jesus

Our central narrative of Jesus' birth is a tender and dramatic story with extraordinary appeal. The charm of the manger scene in Bethlehem almost 2000 years ago may never be equaled. When we clarify the account by leaving out the improbable, we could not hope for a more fascinating birth of a great leader. The Gospel's descriptions of the event as a "virgin birth" inject an extraneous magic decoration into our beautiful scene. We do not understand this unnatural conception, because our Universe does not work that way. Also, the act of wisemen following a star to the manger is symbolism that contributes only artificial background for our drama. The delivery of baby Jesus, with such magnificent potential, in a manger is delightful enough for any of us who are searching for essential human values. 228

The warmth and compassion, together with the hope and excitement of Jesus' birth thoroughly justify the job of our Christmas season. We can definitely use this impressive commemoration of a great leader, who was a world shattering example for all of us. His humble birth supplies suitable evidence that poverty may shelter extraordinary greatness and a lowly start in life may lead to remarkable spiritual strength.

Our Dead Sea Scrolls and Nag-Hammadi Discoveries acquaint us slightly with Jesus before his teaching became extensive. From these historical fragments, we might infer that he studied with Essene teachers in his youth until he was highly charged with enthusiasm for working on problems. We learn that he must have probed deeply into The Old Testament and Alexandrian Greek culture. Obviously, he was a remarkable student of humanity, who carefully analyzed and tested many principles of living. In fact, we can assure ourselves that Jesus had maximum training in helping people at an early age. Our fascination with the stories of his life can focus sharply on his precocious involvement in the cause of human advancement.

Our biblical accounts of Jesus' life require some revision, even though we give them our general acceptance. We can understand his staying behind in Jerusalem to talk to scholars without his parents' knowledge. Jesus was a boy with a tremen-

dous urge for learning and expression. So naturally, he wanted to talk with others who had a thirst for improved philosophical perceptions. Later though, his temptation in the desert or on a high mountain by a magic devil to "turn stones to bread," "throw himself from a temple roof" or "seize the kingdoms of the earth" seem less reasonable. Actually, our gospel writers seem to describe Jesus as bragging about overcoming selfish desires. Still, such boasting seems quite foreign to our humble teacher, unless he was facetious or satirical. But, a better account would have described how his thoughts of personal gain vanished, as he dedicated himself to the relief of human difficulties. 229

We have other confusing reports of Jesus' special performances that we usually disregard. His often repeated admonitions to those who received his help, not to spread the story of his skill, seem quite factual. He definitely wanted beneficiaries of his help to have their own rewarding experiences, while he concentrated on his remedial work and his teaching. But, we can offer no explanation for the story of his walking on the water and we can find little significance in this magic act. Further, the scene in the Garden of Gethsemane, where Jesus kept waking up his sleeping disciples and asking why they could not watch with him, seems strange. And, he must have awakened his disciples, otherwise we would never have learned of the chiding. So, we can continue to wonder why he did not use this opportunity to tell the crowning parable of his career instead of simply voicing disapproval.

Early in his career Jesus made the highly strategic move of enlisting disciples to learn his procedures for teaching people. Such enrolling of followers to observe how he went about his work was a powerful means for promoting his belief. These apprentices gained great insight into effective measures for making human improvements. At the same time, our master instructor gave himself maximum incentive for adopting his advanced methods of coping with difficulties. So, we have a moving story of a teacher who escorted his followers through the flaming corridors of his own life to demonstrate amazing possibilities for human progress.

In Jesus' life story of tenderness and compassion, we read that he enthusiastically devoted much of his efforts to solving physical troubles. Healing sick people seemed to be his principal occupation, particularly when he combined this devotion with special warmth. As he went around treating a wide variety of

diseases, our biblical accounts inject much magic into his cures, including reviving the dead. Still, we have every reason to believe that he helped many people recover from physical disorders. And, we know that much of this faith healing might have occurred. An astonishing amount of recovery from sickness in our day takes place under the influence of great expectations. 230

During much of his life of service, Jesus was helping people with their mental difficulties. He struggled to live according to common sense based on superior relative values. Under his probing, people who asked him puzzling questions were able to answer their own enquiries. Much of his emphasis in living was on growth of mental skills through more experience working on problems. His illustrative stories had such sensible content that we greatly appreciate them today. They certainly elevated personalities in his day. With all of his mental tools, Jesus was able to explain powerfully the great need for improving the mass of human situations.

As he acted to enrich humanity, Jesus demonstrated tremendous knowledge of human feelings and our emotional difficulties. We can become aware of his tenderness from such statements as "in what measure we work to help others, we will have comparable satisfactions returned to us." Then, he exemplified the great need for compassion through his devotion to relieving human troubles. We can feel him loving his enemies. Also, a great many other beautiful emotions were part of his life. He was certainly quick to forgive. While offering advice, he displayed outstanding humbleness and appreciated greatly the humbleness of others. Then, our humble model for living did not stop his portrayal, even when he suffered death on the cross. We may never have life in problem-solving portrayed more dramatically; we may never have anyone else on earth receive greater satisfactions in living.

Teachings Of Jesus

We can scarcely separate Jesus' teachings from his life, because what he taught simply put into words what he lived. His descriptions of how we can improve our lives state quite clearly many important guiding principles for human growth. We can only feel embarrassed to realize that almost 2000 years ago human beings received much powerful instruction in friendly cooperation with such limited effect. Our progress in following Jesus' guidance for making human improvements has

been all too slow, considering that everyone can discover his principles by practice. The essential features of his doctrines could reactivate any society in any day. Yet, even today we do not spread these valuable progressive ideas fast enough for a high rate of human advancement.

An important element in the instruction of Jesus was his great awareness of human difficulties. The five thousand must be fed, when hungry; the blind must be allowed to see, when possible; the lame must be permitted to walk with dignity; the poor must be given help, so they can help themselves. We can acquire greater warmth by discovering his poignant sensitivity to all human afflictions from the sermon on the mount. Our tenderness must develop strength by knowing how instinctively Jesus detected troubles that might respond to human help. When we get involved with him, this perceptiveness can drive all of us upward harder in our efforts on improvements. 231

Human responsibility was the conspicuous lesson of every chapter in each story of Jesus. We must feel that more problems depend on us for solutions, when we learn that he turned no one away. Our accountability must grow, because every human trouble was worthy of Jesus' attention. He was "his brother's keeper"; he never went "past on the other side." His most powerful struggle was for peace, which he turned over to us. Thus, we must not relax our efforts on improvements in the light of his complete devotion to human progress.

Spontaneously, Jesus taught realism in all of his efforts to relieve human difficulties. He expected opposition and even persecution; he responded with strategic display of tolerance for any mistreatment. Then, he called for a natural type of forgiveness, which he practiced quite regularly himself. His admonition of "blessed are the merciful" was an integral part of his own life. He was an ardent exponent of concentrated endeavor to remedy human situations, no matter how much labor was necessary.

We can feel the great demand of Jesus for action and progress. He advocated that we judge ourselves instead of judging others; he even maintained that we should pluck out an eye, if it corrupts us. His insistence on growth was so strong that he urged all of us to become as little children. Steadfastness and persistence were his watch-words; extraordinary confidence, blended with reasonable expectations, were his predominant attitudes. Thus, his precepts and example showed remarkable insights into means for developing human progress.

Jesus' wonderful spirit overcomes attempts by New Testament writers to dwell on ideas of his omnipotence. Our feelings get his message quite clearly, when we read "who would be greatest among you must become your servant." We can sense him "looking for the beam" in his own eye, as we come across his expression "everyone who exalts himself will be humbled." All doubts about his simplicity disappear, as he washes his disciple's feet in one of his final ceremonies. We cannot find a trace of hypocrisy in the essential Jesus.

We can learn much about the process of reconciliation from our Prince of Peace. Jesus portrayed peace as a spiritual structure that is being created by those having compassion. According to this idea, peace is not some condition that we can achieve completely. But, it is a great goal that we must work for vigorously. Also, he taught much of what we know now to be essential in building our increasing harmony and cooperation. In the light of his dedicated life, loving neighbors, turning the other cheek, doing good to those who mistreat us and even loving our enemies makes better sense. Then, he taught us to dislike unpleasant actions, while we even love the unpleasant actors. Following his guidance, we must struggle strongly to improve human relationships and create increased friendliness in our world.

Our respect for Jesus as a teacher must grow as we observe the unfolding of his progress in guiding our spiritual lives. We realize that he really "gained in wisdom" as he acquired experience. In the early part of his ministry, he seemed to concentrate on healing physical ailments. Soon, he was enunciating principles, such as we find in the Sermon on the Mount. Then, he adopted the use of questions that penetrated to the heart of our emotional problems. Such strategic inquiries have opened up many important approaches to human troubles for our contemplation.

This increase in his instructional skill became pronounced as Jesus injected illustrative parables into his technique. From his story of the sower, our expectations of success in our struggle for improvements must be more realistic. His parable of the mustard seed must give us a better idea of what life is all about. Our need to use our talents must be more obvious from his story of the three servants who were given different responsibilities. We can welcome someone who decides to remake their lives much easier, as we contemplate the account of the prodigal son. Finally, his instruction from the cross showed ultimate

genius. We must be impressed, as Jesus demonstrated expanding clarity and revitalizing inspiration in his principles for solving human problems.

The Essential Jesus

We must summarize the essential Jesus, because he was possibly our most effective believer in working for improvements. In him we have a master of the principles that we must all use in overcoming our human difficulties. He was uniquely aware of the problems of his period in history and was intensely concerned about providing relief. His understanding of what caused the troubles and what needed to be done to correct them was extraordinary. Also, responsibility for helping people was very strongly ingrained in him. Certainly, he had great confidence that his efforts would accomplish some enrichment of humanity. Then, his life became a concentrated involvement in relieving difficulties. His passion was for an expansion in life, liberty and the pursuit of problems to solve.

One striking impression that each of us must get of Jesus is his identity with everyone. We can scarcely exaggerate the degree to which he associated with people. Then, he felt very close to those who listened to him, those who questioned him and those who simply heard about him. No problem was too insignificant for him to work on. Thus, he devoted much time helping unimportant people, the poor, the outcast and those of humble origin. Their problems were his, because he believed in struggling with all difficulties.

Jesus provided us with a model of vigorous and expanding remedial action in a background of beautiful feelings. His dedication to enrichment kept growing. Notoriety and glorification did not deflect him from his determined purposes. Nor did recognition decrease his enthusiasm for helping people and societies. When he faced criticism or opposition, he used this opportunity to put his ideas about improvements across more forcefully. If he received injustice, he returned deep compassion. As those in authority plotted to get rid of him, he refused to attempt an escape and accepted crucifixion calmly. His heroic career became still more distinguished as he forgave his executioners.

Developments After Jesus' Death

Writings after Jesus' death followed the normal patterns of recognition for great, lovable leaders of the time. Many devotees

in the Christian community wrote about him with great adoration. Then, our four special accounts came into existence four to ten decades later. But, their reports introduced considerable magic into these stories. Our beautiful stories of Jesus' birth accumulated fanciful and useless trimmings. His great humanitarian acts received their needless supernatural touch. The stories even suggested that he cured the sick and revived the dead with magic incantations. Also, our imaginative writers presented him as a self-proclaimed deity, which seems like a valueless and unbelievable declaration. 234

As a final trip into the miraculous, our writers picture Jesus ascending into a celestial heaven after death. Here, we can never be certain of its origin. But, the resurrection idea may have been started by the disappearance of his body from the tomb. And, Pilate may have removed the body to avoid trouble with Jesus' followers.

By departing from realism, the authors of the Gospels cast our humble hero in quite a confusing role. We realize that deification was common eminence for ancient heroes, after their courageous confrontation with death. Still, these ancient writers forgot that deifying Jesus spoiled the reality of his wonderfully dedicated life. By making him into something divine, who was naturally invulnerable to pain and death, they destroyed his heroism. Human beings are the living things who suffer the agony of great distress. Jesus was too great a man to be made into an anthropomorphic God.

The dedication of Jesus inspired many early Christians to blend great works with supernatural ideas. For some time, the success of the Church seemed dependent on ritual and persuading people to accept the fantasies in biblical accounts. Many members could hold on to superstitions more easily than they could retain obligations to work on human problems. So, caring for the poor, feeding people, going the second mile, turning the other cheek, loving enemies and being good samaritans tended to be submerged in the hope for eternal life. Still, we find Christians like Paul of Tarsus, whose letters made reference to a celestial heaven and a miraculous resurrection, filling his life with the activist spirit of Jesus. The remarkable spread of Christianity has carried with it much of his belief in coping with difficulties.

In later years, Christianity has seldom allowed itself to be simply a refuge for the unconcerned and inactive. Individual behavior of Christians in general has been friendly and compas-

sionate. Organizations of this belief usually create an amicable cooperative spirit. Evidence exists that joining a Christian church has improved our personalities. Examples are numerous where accepting this belief has made us less selfish and more activist. Many churches have been tremendous training grounds for democracy in the way they have carried out their social endeavors. These groups have made considerable contributions to developing education, medical services, musical talents and other artistic skills. The total involvement of Jesus in many remedial activities has shown significant penetration down through the centuries. 235

CHAPTER 27

OTHER WORLD RELIGIONS

Do the doctrines of other world religions point in any way to our belief in Problem-Solving?

In western societies our insight into world religions, other than Christianity, tend to be vastly incomplete. Still, a broad scrutiny that searches for an essential component, which is shared by many human faiths, can be quite revealing. Thus, our attempts to probe their origins disclose a fairly common development pattern for most supernatural beliefs. Zealous founders of these faiths originate valuable life principles for relieving human difficulties. They practice these principles with enthusiasm and teach them under conditions in which the need is great. Their followers and chroniclers marvel at their heroism and rejoice in their dedication to the point of worshipping them. In keeping with this glorification, writers about these leaders embellish their lives with miraculous dogma. So, after an adored leader's death, almost invariably adherents, incorporate into his essential belief quite magical ideas. Further unfolding of these beliefs leads to fragmentation into many parts, usually based on the non-essential supernatural features.

Fortunately, satisfactions in our struggle for progress have always been durable and this glow has always tended to shine through religious magic. Our striving for another step upward in human progress has had its persistent human fascination. So, as we explore some of our many world religions, we find our dedication to working on problems to be their real foundation. Coping with human difficulties may not have maintained great popularity in many faiths. But, this rational belief in improvements cannot be suppressible indefinitely, as we become aware of

our numerous crises.

Hinduism

Hinduism, one of our oldest traditional religions, arose in India possibly earlier than 3000 B.C. One deviation from our suggested pattern of origin for beliefs seems to have concealed the name of the founder. But, it had an interesting beginning, with special emphasis on helping people, even though its development was relatively normal. Thus, one of its earliest doctrines seems to have been that God is the sum total of all forces at work in the Universe. Our dedicated problem-solvers might even accept this idea today. Also, this early belief contained the idea that human beings can achieve union with such divinity by gaining knowledge of how the Universe works. At that time, our Guru taught us how to handle our troubles so we could make progress. Further, when we learned enough, we could accomplish great things. Obviously, with these precepts this religion started out with many advanced ingredients.

After these primary ideas suffered misunderstanding, supernatural innovators arrived to supplement this belief quite extensively. Soon its early concept of a Pantheistic God was greatly amplified to include over 300 million Gods. Everything that we might see or think about seemed to acquire a deity. Even now Hinduism has divine images for many human activities, thoughts and feelings, which may be holdovers from this second-stage development. These ideas devised the soul as a permanent abstraction, representing life as a thread that runs through many levels of existence. After death, a soul undergoes transmigration from one level along a thread-like course and reappears in another living form by reincarnation.

At this point, enough structure crept into Hinduism to make it fairly rigid. So, Brahma became the creator, Vishnu the preserver and Siva the destroyer. As the reincarnation system developed, the process of preserving, destroying and creating needed social stratification. So, having human beings divided into castes and subcastes crept in to make possible promotion or demotion during transmigration. Thus, we had many caste barriers to human communication appear in India, which are only beginning to disappear. We can sense that the caste system was an unfortunate attempt to deal with the problems of human differences.

Our distorted religion developed quite a variety of departures from its original focus on reality. Taboos, rewards and punish-

ments are so complex that their elucidation requires a vast organization of interpreters. Incantations of Veda add their confusion to the nature of this faith. Also, Hinduism suffers from the far reaching difficulty of discrimination against women. Any woman is still largely subject to either father or husband. Indira Gandhi becoming Prime Minister of India might indicate a lessening of this unfair treatment of women. At the same time, the undue special focus on one exception can only emphasize the sexual discrimination allowed by a religion. Then, the religious practice of feeding animals but refraining from eating animal meat increases the difficulty of feeding starving people. With astonishing numbers of starving people, India could benefit from the availability of any additional source of food. Also, Hinduism seems to be more for monks than for ordinary human beings. And, high caste aristocrats seem to form the group that assumes responsibility for working on human problems. So, the potential for progress is substantial in this faith, wherever the excitement of working on difficulties is allowed to spread to all people.

Hinduism has suffered many deviations from struggling with difficulties by absorbing ideas from other beliefs. Such, measure of flexibility shows some evidence of searches for strength in coping with difficulties. Caught in an unfavorable social strategy by Buddhism and Janism, Hinduism adopted their attractive features and took them over in India. When Christianity arrived in India with Jesus' beautiful way of life, it embraced compassionate acts, great sacrifices and devotion to peace. Even Yoga for health constitutes a taking over of all kinds of physical exercise to build strength in human bodies. Also, we may be witnessing a remarkable transformation in Hinduism now, as it moves to adopt the enormous strength of science. The younger members of this faith display tremendous spirit of enquiry. We can sense their great visions of industrializing their society, improving their democracy and lessening their starvation.

One remarkable chapter in the story of Hinduism gave this faith a firm grip on dedication to improvements. During the 1930s, the whole Hindu society put on what was obviously the most remarkable non-violent political protest in human history. Prior to this firm demand for freedom, India was strictly a colony under British rule; after its peaceful ultimatums were met this country achieved one of our more representative forms of self government. We may never know the details of what happened during this powerful protest for political freedom.

But, we do know that the leadership was largely a one-man performance by a highly experienced problem-solver, Mahatma Gandhi.

Under Gandhi's guidance, Hindus staged massive non-violent resistance campaigns with remarkable success. This astonishing religious leader attained such political prestige that his threat to "fast unto death" exacted final concessions from the British government. As a result, India gained its independence from Britain without the death and destruction of war. Unfortunately, the subsequent separation of Pakistan was accompanied by massive killings. But, the original peaceful action against colonial oppression was totally within the framework of our belief in coping with difficulties. This Hindu effort demonstrated that peaceful dissent can be more powerful than violent disorder in effecting fundamental human improvements.

Judaism

This religion that is held by Jews, who are often called Hebrews, originated so slowly that we might say it had historical origins. According to Jewish doctrines, God was quite in charge of the earth before the arrival of Adam and Eve. Their early descendents encountered enormous numbers of difficulties in making transitions from critical misfortunes to more stable situations. The fact that they survived indicates that their contribution to the human struggle for improvements was substantial. We read about their facing many family difficulties with some success. Natural disasters like floods and famines afflicted them. But, these Hebrews continue to endure, even though they were compelled to move around a great deal.

From the Bible, we can get a feeling for the evolution of the Jewish belief over the centuries. Abraham led these Semitic people from Mesopotamia into Palestine some 2000 BC, to give them a homeland. Still, even this early tribal chief might not be considered as the originator of Judaism. His grandson, Jacob, was renamed Israel. But, we have little evidence that Jacob with this new name was the real founder of this belief. His series of shady tricks to get an advantage over his brother Esau might not qualify him as a great religious leader. The fourth son of Jacob, named Judah, can scarcely be called the only originator of his faith, though his tribe became its outstanding promoter.

When the Jews were confined in Egypt, they found Moses who was a strong enough leader to extract them from their trap. Then, they soon needed clearly stated guides for mandatory

conduct and Moses produced these important rules. Military commanders were essential to lead the conquest of the home land and these leaders arose as needed. Then, emotional stability came to light under the guidance of Prophets and their teachings. We can never cease to be surprised at the number of human problems that these teachers treated in a rational manner. So, Judaism developed early strength through experience in following many leaders who were dedicated to working on difficulties. 240

Many departures from their search for progress marked the history of the Jewish people. One unwise excursion subjected them to exile in Babylon. Then, as power shifted in this region, they fell under the rule of the Persians. With the conquest of Alexander The Great the life of the Jews came strongly under the influence of Greek culture. Next, the Syrians dominated them for a period. Finally the Romans arrived in Palestine as conquerers and this area became part of the Roman Empire.

The spiritual emphasis in Judaism had some fluctuation during these changing times. But, the people found a strong bond of unity in their worship and rituals. Even so, they developed a blend of the supernatural with the heroism of their leaders. Their God, Yaweh, was almost always given the credit for relieving any difficulty. If a ruler was successful, it was because he followed Yaweh's instructions. When he failed, he just did not have this God back of him. Still, this injection of the mystical was unsuccessful in eliminating the credit that we must give these ancient leaders as skillful problem-solvers under difficult circumstances.

At the end of the early Jewish state, these people began dispersing themselves throughout Europe. Then, with the fall of the Roman Empire a few hundred years later, this scattering accelerated considerably. Such diffusion subjected Judaism to its greatest test as a belief which could hold people together. Actually, the economic well-being of Jews increased fairly continuously up to the time of the crusades. Then, deterioration set in as Christian hysteria developed over recovering the Holy Lands. So, during the hard times of the Middle Ages, many European governments drove Jews into ghettos or out of their countries. Some of this aggressive anti-Semitism lasted well into the twentieth century.

As a remarkable political development, the British established a new country of Israel after the first world war. This country got quite a prompt and substantial growth from refugees who

fled Germany during the persecution by Hitler. Then, quickly its government became highly representative and the economy became relatively strong. Now we have the resurrection of a Jewish state with some of the old dynamics, after an extraordinarily long interim period.

As an impediment to world peace, the Palestinian Muslims who left the area when the new state of Israel was established are without a home. Now, Israel and surrounding Arab countries form a center of conflict in the Middle East, which is not resolved by the Egypt-Israel treaty. We can scarcely guess what day the next war will break out between Arabs and Jews. Such a powder keg that threatens to blow up the world makes us demand maximum skills from these people who have had such lengthy training in working on problems.

Buddhism 241

Early Buddhist writings suggest that the founder of their religion was born about 550 BC, the son of a wealthy ruler in Southern Nepal. When this founding Buddha was about 30, he abandoned wife, child and wealth and sought redemption through asceticism and mild self torture. Failing to receive satisfaction through agony, he carried out his famous sit-down session under the Bo tree. In his search for meaning in life by contemplation he gained "great enlightenment" or Nirvana. According to our principles of Problem-Solving, Buddha found that his enlightenment demanded knowledge, understanding and relief of human problems by involvement and self-purification. So, after passing through this transformation, he set out to help people with their difficulties and spread his principles.

Buddha's belief seemed to be based on the idea that we must all strive for Nirvana. Thus, his doctrines proclaimed equality and brotherhood for all human beings. To reach this goal, we must eliminate all evil from our lives. Here, we do good to others by practicing self-sacrifice, we order our minds by contemplation and we suppress all passion. Our lives are elevated by our discomforts and suffering, if we are serving the people. So, in its early stages, this religion had only activist theology, no deity and little ritual.

Apparently, Buddha simply wanted to help people and did not intend to start a theistic religion. But, to expand his activities, he gathered disciples and trained them to carry on his work on improvements. And, this action led to the establish-

ment of a monastic order. These followers had supernatural inclinations and sought magic methods for obtaining recognition. As an example, the transmigration idea was converted to Karma, in which human acts and thoughts after death are transferred to another animal. Thus, these mystics developed a complicated belief that spread out over most of Eastern Asia. During this expansion process, Buddhism invented a large number of Buddhas, catering to the polytheism of other religions. Also, it fragmented into many sects largely on ideas about how we might achieve Nirvana. For millennia its goals to help people have remained in place, but partly in a dormant state mixed with magic.

In spite of its departure from original strength, Buddhism may again contribute to our belief in making things better. We may find our self-love extending out further to loving others. All sects, including Hinayana, Mahayana and Zen, may recover enthusiasm for struggling to make improvements. The acquired weakness of this religion, which appeared in its magic and decreased responsibility, shows signs of disappearing. Hopefully, we will witness its full circle return to coping with difficulties. We have responsible as well as peaceful and thoughtful Buddhists appearing in many places around the world. Nirvana may yet revert to its first concept, as the deep satisfactions that creative activists obtain by working hard on human problems.

Islam

Mohammed, the Prophet of Islam, must be considered among the important figures in history. Satisfied to live the life of a wealthy merchant until he was 40, he decided that Arabs needed a prophet to show them true religion. During meditation in a cave near Mecca, he had a vision of an ideal human community as an all-pervasive way of life. At that time, he started to teach the local Arab people relatively beautiful virtues for his day. He must have emphasized the Jewish laws of Moses and he added the need to give alms and show kindness. Then, he dedicated himself energetically to relieving human troubles. Thus, his first visionary actions in helping people displayed the strength, for his day, of working on difficulties.

Like the reception of other progressive practices, Mohammed's teachings received ridicule and forceful opposition. Still, he continued to expound his cause quite patiently and effectively. For a dozen years or so, he displayed remarkable wit, restraint and clever ability to flatter. So, he attracted much

attention. His doctrine that each of us must work out our own salvation gained many converts. Also, his methods of working on human problems acquired considerable popularity. But, he felt that his life was in danger, which led to his flight to Medina.

We are not certain what happened to change Mohammed's approach to human difficulties in his new home. His efforts to spread his doctrines were successful. But, his procedures shifted from the peaceful to the belligerent. Very likely he felt that he must conquer Mecca; possibly his success corrupted him; probably his five cardinal doctrines, (1) acceptance of one God, Allah, (2) prayer five times daily, (3) unrestrained alms-giving, (4) fasting of Ramadan and (5) pilgrimage to Mecca, were difficult to impose on people peacefully; perhaps his insecurity made him feel that he had to fight to survive. At any rate, the violence of his day overcame his original vision of a world searching for improvements. Aggression took over and, during the period before his death by poisoning, he spread his teachings partly by military means.

After Mohammed's death, his followers continued to deviate from his progressive teachings and his early work on human problems. Muslims adopted his later aggressive practices and turned into conquering hordes, before relaxing to quarrel among themselves. Later adherents injected their own magic beliefs and ceremonies into their modified religion. Islam seemed to develop more extensive rituals mainly to keep those of us who were Arabs inside of some rigid line. In this belief we may have had a divided monolith of the faithful, but little excitement of working on improvements. Here, our rigid doctrines condemned us to be burned in hell, if we were wicked, even though our cremation was postponed until the judgment day. But, if we denied the day of judgment, we would suffer more severe punishment. All of this belligerence and magic were hard to square with the original progressiveness of the Prophet.

Evidence is strong that present Islamic regressiveness lacks Mohammad's early visions. After all, this area was the cradle of civilization before our new Islam took over. Since then as Muslims, we have had little personal or national purpose; even now we have few programs of human achievement. We are still trapped by meaningless ritual, instead of working for greater goals, more rights and better opportunities. Rather than improving the quality of Muslim lives or increasing educational accomplishments, we still direct our efforts largely against enemies. Our conflict with Israel seems to be a religious war fomented by

territorial intrusions and by our failure to assimilate displaced Palestinians.

At the same time, many Muslims display the enthusiasm of working for improvements. Human values show occasional signs of supplanting aggressive distortions. For example, the treaty between Egypt and Israel is a dramatic step upward. Then, our Islamic republic in Bangladesh gives evidence that this religion may help develop a representative government. Some adherents are even working on problems of starvation in many developing countries. Also, the new measure of freedom for women in Turkey demonstrates the relaxation of one serious religious prejudice. If all Muslims could eliminate the serious confrontation with Israel, transformation of Islam back into a struggle for a better world seems well in the reach of younger followers.

CHAPTER 28

PHILOSOPHIC IDEAS

How did Problem-Solving begin to break through the barrier that supernaturalism erected against improving action?

Our belief in working on human problems received considerable impetus from ancient philosophical doctrines. Many of these well-known adventures in reasoning predated some of our supernatural religions. Among such searches for truth we had amazing development of theories about various human concerns, from happiness to sorrow, from living existence to death and from individual self to organized states. Out of ignorance, these early attempts to understand life occasionally included some miraculous ideas. Then, seldom did our ancient philosophers give much thought to experimental investigations, even on themselves. Our early period of philosophical speculation was the age of logic as prescribed by each philosopher from his own insight. Still, this struggle for understanding brought us some distance along the road of coping with difficulties.

Confucianism

Beliefs, like Confucianism, tend to have their own historical patterns. In this case, its founder retained great popularity and received veneration in China for millenia, but escaped deification. Further, we know something about how this belief avoided most religious magic. Confucius was a student of Chinese history who occupied public office and produced several written classics. So, he was in position to disclaim any supernatural powers as a leader. Then, even his followers refused to inject mystical ideas into his teachings. Thus, these teachings became simply the curriculum of an educational process that was quite helpful to students. The power of his doctrines that

demanded progress was sufficient to keep some of his belief alive today, in spite of the difficulties that he overlooked.

Confucius' elementary school of thought prescribed many positive ways for us to improve our relationships with each other. Following his teachings, we must sublimate our personalities while we cultivate identification with others. As we identify with others, we must regard them with increasing compassion. Such personal reaction involves our developing expanding faculties for tenderness through practice. In particular, we must be quite courteous. These exciting ideas furnish powerful bases for lasting personal friendships among his followers.

He had attractive rules to guide us in how to relate to our intimate group. According to these rules, we must practice virtues that would build up our dignity and feeling of adequacy. Helpfulness was important; being generous was given considerable emphasis. Sometimes his admonitions were negative like "do not do to others what you would not want them to do to you." But, his guidelines discouraged personal gratification and encouraged accountability that led to great group loyalty. Under such instructions, family life in China was quite stable, though relatively rigid, throughout the strong influence of Confucius.

These ancient teachings also provided useful formulas to govern our relationship with the world about us. While obeying such principles, we were under obligation to understand other people and their personal problems. In addition, we had to treat the general public decently not only out of sympathy and altruism but primarily to maintain our dignity. We not only recompensed kindness with compassion, but we compensated injury with justice. Such ideas gave considerable impetus to the early spirit of justice in China.

We must conclude that Confucianism occupied an important historical position in our progressive belief. The elements of struggling with problems are essential parts of its philosophical ideas. Its principles prescribe useful means for making human relationships more pleasant; its emotional framework provides much of the spirit of human cooperation. We can see that some competence in handling our human difficulties developed in China a long time ago.

While his philosophy sought relief for many of our troubles, Confucius overlooked most of our serious governmental problems. He maintained the unrealistic idea that government does

not need accountability to everyone. His military-chain-of-command type of social structure tended to make problems instead of solve them; his autocratic dispensing of wisdom tended to convert his belief into traditionalism instead of a resource in which everyone works on social difficulties. We should learn valuable lessons about the dangers of disregarding difficulties from this limitation on democracy. When we assume responsibility for reforming ourselves, social and political reforms do not follow automatically. Total progress demands our struggle for persistent improvements in all aspects of human life.

This ancient faith has also needed much improvement in its attitude about fairness in the home. While Confucian family life in China was stable and unified, the mother was a second class parent and the girls were second class children. Women in general had few rights and even less recognition in their minor state of serfdom. But, we know now that, when men become family tyrants, homes do not meet the requirements of friendly cooperatives. Actually, women must receive equal status and responsibility with men, both in our homes and in our societies, before our belief in working for improvements becomes vigorous.

Confucius recognized that our lives can be exhilarating even in the depth of poverty, if we have good health. Problem-solvers might accede to such doctrine, except this philosophy did not regard poverty as a desperate human affliction that we must struggle to eliminate. Its tacit assent to personal destitution rather than vigorous drive to decrease privation is an unfortunate weakness for a resource. Our problems of human want do not solve themselves. Thus, an elevation of this philosophy must focus on improvements for all low living standards.

Autocratic emperors ruled China during much of the millenia that Confucianism had influence. Still, believers in this philosophy offered little opposition to such tyranny. Then, when a provisional constitutional government arrived, with little help from Confucianists, China could not develop a ruling authority that was representative. Next, as Communism in its tyrannical form thrust itself on to Chinese society, Confucianism offered little resistance. We must learn from these sad experiences that representative authority in any society needs the wide attention of problem-solvers. A really responsible government requires that all of us show expanding democratic involvement. Even so, the basic activist principles of Confucius may survive rigid present Chinese communist dogma.

Early Greek Philosophy

Twelve centuries before the birth of Jesus, Homer ushered in to Greek history an exciting period of search for philosophical insight. This period lasted over a thousand years and may only have ended because the many wars obliterated it. During this time, most religious worship in countries around Greece was primitively inhuman. Some of these beliefs were not only magical but even bestial. So, in our early age of Greek thought, we had a great swing away from ignorant antiquity toward reasonable progressiveness. Apparently, these philosophers wanted desperately to comprehend the basic principles of human life. We can only speculate about why the light of reason and freedom from fear glowed so brightly in our group of Greek city states. But, we think that its auto-catalytic fascination was responsible for this giant step toward understanding people and working on their problems.

Some of the early Greek exploration into reality delved into rudimentary mathematics and science. At an early date, Thales brought geometry from Egypt and expanded it. He also questioned the ultimate nature of things and events, which may have started the idea of philosophy. At least, his studies became an elementary stage in many searches for truth. During this time, Pythagoras contributed substantially to the development of geometry by investigating triangles. His studies branched out into probing the harmonics of nature by assigning numbers to series of natural phenomena, like notes in a musical scale. Space objects received his numbers treatment in an effort to create a harmony of the spheres. His students even recognized that space objects, now called planets, rotate around what we now call our sun. Then, as a remarkable step toward the start of biology, Hippocrates made numerous important observations about the growth of living things. Also, Archimedes gave great impetus to the physics of liquids through his studies in this realm. For certain, Greek searchers for truth were active in many different areas of understanding.

Our ancient age of reason took a step upward quite early under the inspiration of Socrates. In this philosopher we had a great prober for the most positive attributes of truth in our lives. For him, true knowledge built confidence that could be equated to a beautiful virtue. Thus, he was a searching questioner of human conduct and an enthusiastic teacher of how human beings might behave better. With his dedication, he would never do anything of which he was ashamed, even if the

alternative was death by poisoning. His heroic life aroused students as much as his powerful questions. Thus, struggling for improvements obtained adherents at a good rate under his teaching.

Astonishing human advances came to light in the writings of Plato. Except for the stories of this prolific writer, we would know little of Socrates and Greek Sophists. In a powerful way, Plato developed theories of life in terms of purpose and participation. He described courage, beauty and happiness as realities that were apprehendable by thought. But his emphasis was on the harmony that is produced when virtues are present in better proportions. This concept led him to accept enriched character of our emotional lives as sources of improvement in our vitality. In keeping with our struggle for advancement, his ideas describe relative goodness as the foundation of reality. His Republic pictures a morally governed world where we reward justice and punish injustice. Here, his ideas of true knowledge place it on a higher level than the fluctuating opinions and perceptions of ordinary life. Also, Plato's practical activities were extensive enough that our belief in coping with difficulties gained considerable impetus from his life.

Greek thought seemed to move in the direction of biological science under the influence of Aristotle. This philosopher-biologist emphasized the existence of the mind as our means of probing for truth. His ideas of thought and logic were so simple and straightforward that they made considerable impression over the centuries. In fact, his accent on thinking was respected, even though he felt some indifference to making practical applications of his ideas. Apparently, the abstract biological side of life was his consuming interest. Aristotle advanced extraordinary theories about the structure and growth of both animals and plants. His ideas about reproduction of living things seems unusually modern, considering the lack of knowledge at his time. He even had progressive ideas about the future of the human species. Still, from his imperfect theoretical studies, we can appreciate the need for experimental investigations to test the validity of speculations.

During the middle of this period of philosophical contemplation, the Athenian state moved upward through the age of Pericles. Some remarkable ideas developed to give democracy a wonderful start. Ordinary men gained an almost equal chance of holding political office. We had the advent of trial by jury. Officials received ordinary payment for carrying out public

duties. Poetry and art, particularly in the theatre, portrayed freedom of human beings to be themselves and think their own thoughts. During this special growth of thought, advancement in knowledge swept those who dedicated themselves to improvements into great feelings of their community going upward.

With their concern about personal attitudes and social organizations, early Greek philosophies have elevated us in the direction of responsibility. But, all philosophical theories keep challenging us to discover how useful our ideas really are in practice. Thus, all searchers for truth have played more seriously with experimental studies of reasonable causes and rational effects. But, we desperately need to understand still more, while working on our human problems.

CHAPTER 29

SCIENTIFIC STUDIES ABOUT SPACE

How are space sciences totally enveloped in Problem-Solving?

Our scientific studies, which investigate every conceivable problem of space, make remarkable use of problem-solving. Making discoveries in our cosmos is the delight of space observers. When we dedicate ourselves to investigate these puzzles, we devise every imaginable instrument to furnish additional astronomical information. With these new means, we scan our outer space persistently either for some new phenomenon or to make some new measurement. Any unusual observation arouses intense interest and great effort toward increased understanding of the Universe.

The never-ending nature of our space studies shows up in the rate at which our probings into the Universe disclose more enigmas. In spite of extraordinary progress, new questions arise more rapidly than answers come to light. Much knowledge emerges only to stimulate more extensive probing and better mathematical analysis. Thus, scientists continue to delve more strongly to penetrate the space secrets of our Universe.

In recent years, our government through NASA has substantially entered our space exploration programs. As a result of vast expenditures of public funds, our space investigations have become fantastically sophisticated. Our Apollo projects allowed astronauts to walk and ride around on our moon, gathering rocks and information. Now, we have space modules approaching Mars, Jupiter, Saturn and possibly other objects to observe extraordinary phenomena in our solar system. Also, we have fancy instruments on artificial satellites collecting all kinds of radiation. These studies are amazing

illustrations of our belief in working on problems, in splendid operation if our priorities are suitable.

Expansion Of Space Observation Techniques

Early observers of celestial objects had to limit themselves to the use of the naked eye. Astronomy then took a giant step upward with the development of optical telescopes, both refractor and reflector types. With these instruments our objects in space, which gave out or reflected visible light, became much easier to see. Now, the radio telescope is common knowledge to those of us who have seen the spread of its enormous antenna. In addition, we occasionally hear about X-ray and neutrino observations of outer space and we may vaguely imagine such detection devices. All of these startling types of radiation enable scientists to probe almost countless objects, some that are visible in the sky at night and some that are invisible.

Records of our astronomical observations are highly dependent on photography. We can produce these photographic records of space objects using the large variety of radiations. Then, many types of spectrographs help us make analyses of stellar atmospheres and other valuable radiation information. Working with different radiation lines of different wave lengths is a remarkable opportunity for mathematicians. From our calculations, we can obtain knowledge of distance between bodies in space, paths of objects, rates of linear motion, rotation speed, tilt of rotation axes, size and mass of objects, pressures inside of certain bodies, surface temperatures, luminosities, color indices and chemicals near the surface of stars. Remarkable details of these measurements and calculations offer highly attractive experimental allure. Thus, development of our space information is expanding at an astonishing rate.

Our analyses of various kinds of radiation may be just in their beginning stages. All rays that are detected by our space modules or satellites offer additional opportunity for study. We expect to increase our celestial knowledge considerably by simply removing our observational instruments beyond our earth's atmosphere. Now, we are even looking eagerly for gravity waves. Our expectations for expanded information from new space-ray studies are great indeed.

Techniques for studying chemicals in our Universe have become increasingly capable. Astronauts brought back quite a lot of rocks from the moon and we are analyzing them very

carefully. In time this information may become important as a source of enlightenment about the origin of our solar system. Then, we continue to learn a great deal from space modules about what is happening to various chemicals in space. These tiny units of matter may become almost as significant as large space objects.

Chemicals In Space

With our sophisticated analytical techniques, we can hope to detect all of the elements in the periodic system on various space objects. We will need to learn more of such information in order to expand our ideas about what has happened and what is happening in the Universe. Any theoretical postulation of past cosmic action requires some correlation with present distribution of elements in space. Thus, our chemical monitoring program is certain to help us follow the creation process.

We must be relieved to find that probably a very high percent of our space atoms are hydrogen. This reservoir is satisfying, because these simplest elemental units are essential in fueling our stars, so they can produce the light and heat that we need for life. At least, we do not want our sun to burn out and stop its nuclear fusion inside of many dozen billion years, even if we could find use for the helium product. Besides this hydrogen, our Universe has considerable oxygen, carbon, nitrogen, calcium, phosphorous, silicon and sulfur, which are highly useful atoms for building our important chemical compounds. Some of these elements seem more plentiful in planets. So, naturally enough we find lots of them on earth.

Our studies of chemical compounds in space have been somewhat concentrated on analyses of interstellar clouds of gas and dust. Here, we find large amounts of water, ammonia, hydrogen cyanide, formaldehyde, carbon monoxide, methyl alcohol, acetaldehyde and silicon sulfide among the dozens of chemicals reported by radio astronomers. Then, recently we have learned about the presence of carbon chains. Curiously enough, these atoms are probably linked together like the organic carbon compounds on many planets. So, the exciting feature about our discovery of carbon chains is that we can imagine them accumulating on earth to participate in the origin of life. Thus, we are eagerly searching for some theory that might explain how these carbon chains are synthesized in interstellar clouds.

Our confusion about chemicals in space increases, as we realize that a high percent of our universe is made up of plasma. Such cosmic material consists of ionized particles that usually have equal numbers of positive and negative charges. So, we must deal largely with these charged forms of matter when studying the chemistry of creation.

Organization Of Space Objects

While studying space, we are naturally drawn toward observing stars, because the typical ones are quite bright like our own sun. In addition, these types of objects seem to play a leading role in creating many other types of radiation in our Universe. But, various studies suggest that such centers of nuclear fusion exist in various states of activity and decay. So, we have White Dwarfs, Red Dwarfs, Blue Giants and Red Giants to offer an astounding diversity to our sources of energy in space. Then, our recent probings have disclosed Quasars, each no larger than a moderate sun, that are roaring along at speeds approaching the velocity of light. Here, we can study where these objects have been and where they are going. Further, we have detected weird Pulsars that are sources of remarkable radio waves. Anyone can develop considerable curiosity about how these waves get started. Even more strange, our observations have located neutron stars that emit primarily some elementary particles of atomic nuclei. We would certainly like to know the origin of these nuclear units, where nuclear reactions are unrestrained. All of these active objects in our Universe present special challenges for us to get busy and uncover more information.

From our space observations, we get increasingly well acquainted with solar systems as structures associated with stars. The existence of many billion of these space groups makes our study indefinitely long. So, of course we have learned most about our own sun with its nine planets that are moving in elliptical paths around it, while rotating on their axes. Flights of our space modules furnish us with remarkable information about these planets and their satellites. We do not know how soon some project may be organized to pay a visit to a planet. Still, other solar systems are much further away and more complicated. So, our study of stars with less bright objects moving around them is an on-going process. Then, these structures are among the simpler parts of our vast cosmic organization.

Galaxies are the next stage of complication in our organization of space objects. These hazy patches of light as seen through a telescope are made up of uncounted millions of solar systems and star clusters together with clouds of dust and gas. Our Milky Way, which contains our own solar system, gives us some idea of what a galaxy is all about, on a clear night. We might get the idea that these patches of objects have some kind of a disc-like structure. But, we can be certain that much more information is necessary to enable us to understand what is the support for this type of cosmic configuration.

Our space arrangements of groups of cosmic objects are still more intricate. We discover that not all galaxies form simple and regular circular clusters. Many of our galaxies are spirals; a substantial number of the structures are spheroidal; one type of cluster consists of galactic pairs; other organizations include many pairs grouped together. Also, the evidence suggests that these organizations may change with time. Thus, our investigations of such superstructures are quite exciting parts of space science.

Still, among our biggest mysteries in space are the dense "Black Holes" that may occupy enormous volumes of our Universe. The characteristics of these objects are that they emit no radiation of their own and allow no penetration of radiation from other sources. Thus, these volumes of our space must have extreme density and display extraordinary gravitational attraction. So, here is where we might have energy accumulate under gravity for our giant space explosions. We feel the challenge to uncover more information that will furnish more meaning to space arrangements.

Possible Creation Processes

Our greatest puzzles about the Universe include mysteries of what has happened and what is happening in space. In our search for answers, we learn one awe-inspiring reality, the Universe is expanding at a tremendous and a progressive rate. Far distant galaxies are moving away from our Milky Way at velocities increasing roughly proportional to their distance from us. Especially as it seems to be slackening slightly, this acceleration in cosmic expansion may present the most significant test for any ideas about origin or destiny of our Universe.

To the end of our human existence, we may be arguing over ideas about how the Universe originated. But, our radio

astronomy gives us some indication that our Universe has experienced one high density, high temperature and high electrical intensity situation. Also, this information allows us to estimate the age of our outer space objects as about twenty billion years, when we measure the period from our one violent cosmic event. So, many astronomers feel almost convinced that one "big bang" started the whole process of bringing the Universe into existence.

Naturally, our one "big bang" theory of creation confronts several puzzles that must stimulate many space studies. If our big event erased everything that existed before it, we may be in an impasse. We will scarcely be able to get any answers to our questions about what exploded or what made the bang take place. But, this restriction to our investigations is not liable to be acceptable to scientific searchers. Someone is likely to suggest that we might have had many previous explosions. Then, we do not understand how gravitation attractions from more recently created objects can allow the one bang to produce an accelerated expansion of our Universe. This accelerated expansion actually suggests that most of matter is out beyond our Universe and is exerting a strong pull on our objects. Actually, if we extrapolate our present expansion backward in time, assuming motion under an ordinary explosion, the results seem to tell an unreal story. In it, our Universe should have been a dense pin-point of nothing but energy ready to explode long after our galaxies actually had their present dispersed form. Then, whichever force was involved in the initial explosion of nothing, we must always wonder where the unused forces were hiding. Apparently, a few supplements are necessary to improve this theory as a reasonable account of creation.

Possibly, the assumption of an infinite assortment of Universes would help our understanding of our vast cosmos. Then, most of the total amount of matter would be out beyond our little Universe and would be exerting tremendous gravitational pull to produce acceleration in the expansion of our objects. At least, we seem to need something out there.

Some kind of complex theory of creation that involves "multiple big bangs" might be more useful than a single one. Then, such multiple explosion idea might use our numerous "black holes" to accumulate matter. These collectors would naturally consist largely of heavy atoms with very high atomic weights. But, would be surrounded by hydrogen all ready to be

converted to a helium nucleus. All forces might be involved in the collection. Still, gravitational forces are bound to take over and eventually build up a point of tremendous energy, capable of starting all kinds of nuclear reactions. At a critical point of compression, each concentrated mass might explode, like a plutonium bomb, and touch off the hydrogen, like in a hydrogen bomb. Such detonation would release enormous amounts of radiation, neutrons, gas and dust. The radiation would contribute to the previous amount in space; the high energy pulses would regenerate hydrogen; the neutrons would act to enlarge the nuclei of atoms; the dust and gases containing many kinds of atoms would accumulate in adjacent space. Thus, we might have an indefinite number of these "big bangs" with continuing after-effects.

We do not need to doubt the occurrence of cosmic explosions, because we can observe them occurring rather frequently, when we use suitable instruments. Usually, these events just result in increased intensity and turmoil of some bright cosmic objects. In this case, we refer to the participants in these violent incidents as novae. So, we must recognize violence in space as an on going affair.

Still, our indefinite number of galaxies that have widely varying configurations challenges any simple, all-at-once theory of creation. We can easily get the impression that, during many billion years of existence, our Universe has formed these space superstructures quite differently. At least, we can develop a measure of skepticism about the idea that all of these structures had a common origin. The almost certain variations in the original gross contours of our swirling masses of hydrogen gas and dust arouses our minds. We might even want to suggest the possibility that we had separate original sources for different galaxies. So, we must try to understand how all of our cosmic forces could accomplish such massive divergence.

We have many billion stars whose origin, ingredients and activities need considerable study. We may have difficulty understanding how our bright objects got started and what action is taking place. After a violent cosmic explosion, we can imagine that some reaction products gathered enormous quantities of hydrogen gas in clusters. Our imaginations also tell us that gravitational attraction might have compressed this accumulated gas until it entered the energy-producing nuclear reaction to form helium. But, the reason why these myriad masses of hydrogen react relatively slowly is not very clear. We

are just glad that they do such a good job of lighting up our stars, instead of exploding like hydrogen bombs. Our relatively slow hydrogen reaction must be rather natural, as so many stars exercise this restraint. Still, we need to work hard to develop useful theories about this important process in our Universe.

According to most conceptions, more swirls of dust and gas originally contained, in proportion to other materials, too little hydrogen gas for them to become stars. Still, these eddies of matter presumably experienced gravitational compression into objects, which are our planets with their satellites. Thus, we can figure out why these planets are spinning, as their original clouds were whirling. Also, the rotation of these objects around stars seems relatively reasonable, because we can balance their gravitational with their rotational forces. But, we have a multitude of unanswered questions about our different planets and what makes them different. So, we will need many more planet exploration modules before we will get much information about temperatures, atmospheres, solid compositions and satellites in our own planetary system. These planets are wide open to exploration with our enormously sophisticated equipment and our urge is quite strong.

Particularly, when we are dedicated to greater understanding, we thirst strongly for more knowledge of cosmic origins. The fascination of learning more about what we can see in the sky on a clear night follows from the picture of space that seems to envelop us. The dynamics of all creative processes are occurring right in front of our eyes. Thus, our lack of complete perception drives us to probe for better understanding of what is happening. This effort to increase our comprehension of our Universe gives problem-solving one of its best roots in science.

Our Einstein Universe

We have quite a variety of instruments that we can use to probe our space objects using diverse radiations. Still, we must get more accustomed to investigating our Einstein Universe. Many ideas of early space scientists have proved illusory. So, now we must adopt the relativistic concepts of space, time, mass, light and gravity, along with how they interact. The fact that our mathematical calculations become complicated must be accepted as a scientific reality.

We have some difficulty in adapting our ideas of space to fit the picture that was painted by Einstein. Still, we know that our relativistic space has four dimensions. Thus, in our new

concepts, space must be regarded as curved, while matter must be considered as one of the primary causes of the curvature. So, as matter tells space how to change its form, space tells matter how to move. We can be certain that these concepts will be extraordinarily important in our future space investigations.

Our ideas about time require some drastic changes also in our new Universe. As illustrated by some examples, our passage of time depends on our rate of motion. With respect to our observations our time slows down as we approach a very dense object. So, it stops as we near a Black Hole. But, we can stretch out our time by going so fast that we converge on the speed of light. Duration of our periods becomes a strange variable.

We are quite aware now that mass, m , is convertible into energy, E , in terms of the velocity of light, c , according to the formula, $E = mc^2$. But, we must also make some adjustments of mass with changes in velocity. For certain, the mass of an object gets much greater as it approaches the velocity of light. Then, with this increasing speed, the mass becomes so great that the object cannot go faster than the velocity of light.

Our understanding of light has been growing ever since we realized that this radiation exists in quanta. From Einstein's ideas we learned that the velocity of light is independent of the velocity of its source. Still, a gravitational field slows this velocity and thus deflects the course of this radiation. So, many of our space observations must take this effect into consideration. Light continues to be a most interesting subject for study.

Our exciting space exploration may turn in the direction of investigating gravity to determine more of its effects in our Universe. Relativity keeps uncovering hidden ideas. So, we need to find out additional information about gravity's warping of space, slowing down of time and deflecting of light. Then, our highly probably gravity waves call for considerable research. Such variation in our universal attractive force has opened up some interesting possibilities. In space science we seem to make special progress when our studies focus on discarded or overlooked experimental fields.

CHAPTER 30

SCIENTIFIC STUDIES ABOUT EARTH

Do our scientific studies of earth show up the full strength of Problem-Solving?

Our earth is the solid ground under our feet, the water for us to drink and the vital atmosphere that is free for us to breathe. In addition, scientific studies give us an increasing body of information about our planet that we can get only from special observations. These probes indicate that our place of human habitation is a giant spinning ellipsoidal ball, slightly pear-shaped and with a fairly rough surface. Then, we find that our earth is traveling in an elliptical path, with our sun at one focus. Also, the spin axis of our ball has a tilt with respect to a perpendicular to the plane of its elliptical path. Curiously enough, its spinning motion has a wobble, which makes our earth's actions in space fairly complex.

We can easily discover that our big ball has many intricacies on its surface. It certainly has a tremendous assortment of mountain ranges. Liquid water covers a substantial portion of its exterior, with oceans, lakes and rivers; solid water piles up as ice and snow on both land and water to create a delicate thermal and ocean level balance. In conformity with many space objects, our earth is a big magnet, whose poles are definitely removed from the poles of its spin axis. It even has a wonderful assortment of all the chemical elements known to science. Then, fortunately it is extraordinarily hospitable to human beings with its atmosphere, mild temperatures, fresh water and good food supply.

Unanswered questions about our planet confront us from every direction. Thus, if we are earth scientists we occupy

ourselves diligently with every available means for getting more information about our big ball. We make considerable use of seismic exploration, determination of acceleration of gravity, analysis of materials from holes bored in earth's crust, temperatures measured at strategic places, depths of oceans, structures of rocks, magnetic orientation of various strata and all sorts of atmospheric studies. Unfortunately, our theories of action inside of the earth are seldom open to proof, because we are unable to carry out reconstructed experiments. Still, even without vindication, advances in understanding seem to occur fairly often. Thus, our scientific studies about earth are amazing in their ability to demonstrate the strength of our belief in working on problems.

Our Earth Formed In Layers

We have labeled various layers of the earth as cores to indicate great depth and have designated the material just under the crust as the mantle. Our present knowledge suggests that the central inner core consists of very hot liquid and the less dense outer core has quite variable assortments of minerals. We identified the inner and outer cores of our earth largely by studies that detect density differences. Here, our seismic methods may have been the most useful. When our sonic waves bend sharply, we use this information to locate the depth at which the density of material carrying the vibrations changes. Such interface marks the boundary between either inner and outer core or outer core and mantle. Also, our earthquake "shadow zone" observations tell us information about these boundaries that largely check seismic results. Further, the variation in pressure at various depths can indicate surfaces of separation between earth layers.

We have the exciting problems of determining what materials might be in the dense liquids of the inner and outer cores. Various theories have assumed that our earth's inner core consists largely of molten iron or iron-nickel alloy. We might also think that the outer core comprises metal compounds. But, we can be certain that new studies will uncover other possibilities that will deserve consideration. At least, we know that earth's temperature is hottest at the center and that its resultant violent thermal motion confuses our studies substantially.

Mantle As Acceptor And Rejecter

We may call the layer of material that covers the outer core of our earth the mantle, because it is the primary liquid covering. As both primary and secondary seismic waves travel through this mantle with minor absorption, we may regard it as essentially solid. Still, some materials in even the external part of this later appear to be molten at prevailing temperatures. But, in spite of this mixed picture, the rigidity of our mantle increases to higher values with increasing depth.

Many layers of solid materials must be present in the mantle and we can only speculate as to their composition. At any rate, thermal conduction through these layers must be relatively slow. Still, evidence seems pronounced for the existence of convection currents that would tend to disrupt solid layers. Materials would move upward where hotter spots develop and downward where cooler regions occur. Once started, these currents would tend to continue and produce massive patterns of circulation in the primary covering for our cores.

Even though the pressure is enormous, where our mantle contacts our outer core, we can expect transfer of material between these layers. Acceptance and rejection of substances by the mantle must make this lower contact quite diffuse. We certainly do not have anything like a simple surface of separation at this depth. Thus, our studies to obtain information about such interaction problems are quite fascinating.

The external region of our mantle also engages in acceptance and rejection of materials with our crust. As an example, our Mid-Atlantic Ridge may be the result of extrusion from the mantle of molten rock. As the earth does not appear to be expanding generally, our extrusion must have compensating action. When the mantle transfers molten magma to the crust, it receives material to replace what is lost. Thus, earth science continues to follow the pushing up and pulling down between mantle and outer layer.

Action In The Lithosphere

We may call the whole of earth's crust the lithosphere, because it is very largely made up of rocks. Also, we currently regard this outer crust as consisting of a dozen or more somewhat rigid rocky plates that appear to float on top of the mantle. These plates participate in structural alterations of our earth's surface by moving with respect to each other. Such plate

motion offers sufficient prospects of usefulness, as a theory, to receive the name of plate tectonics. Now, we test this approach to action in the lithosphere and try to reach improved understanding of what is happening to our earth's surface.

Spreading of our plates in the earth's crust coincides with convection-like motion of mantle lava into the lithosphere. Solidification of this lava creates new rock between plates where other action pushes them away from each other. As resistance to motion develops, a mid-ocean ridge bulges-up and enlarges. Then, the newly created bulge crystalizes in our earth's magnetic field and becomes a broad permanent magnet according to the orientation of the field in its location.

Our rock that spreads out from the bulge area carries the original orientation of its solidifying position. Also, while new material moves up between plates and into a bulge, an equal amount of rock pushes down under deep ocean trenches near continents. In the course of some plate motion, our crust may carry some continents with their mountains along like objects on an ice flow. Fortunately, we can check up on this speculation by measuring the orientation of magnetic rock on our ocean floor.

This pushing down of the lithosphere into the mantle is one of the interesting ideas in plate tectonics. As a thinner ocean plate grinds into a thicker continental plate, something may give. Here, the effect of all forces makes the decision about what happens. But, someplace a thinner plate bends downward and descends into the mantle under the thicker one. Whether or not the ocean floor material is carried along into the mantle, the continental plate is elevated and the area becomes an ocean trench. This bending of the thinner plate is gradual, but may eventually reach an angle of about 45° with respect to the earth's surface. All of this downward bending of tectonic plates shows up in our modern seismic profiles of our earth's crust.

These descending tectonic plates create enormous stresses with accompanying faults, before they become hot enough to join the mantle. Thus, we can detect these faults quite easily, particularly where the first bending of the rock takes place. Then, when slippage occurs along faults under high stress, we have earthquakes disturbing these areas. Also, where plates melt or penetrate into molten pockets of the mantle, volcanic eruptions can disrupt earth's surface. Their increase in temperature comes from thermal conduction, increase in pressure, radioactive decay, recrystallization and simple friction.

So, our understanding of these phenomena gives us valuable insight into violent zones and quiet areas on our planet.

Our plate tectonic theory of movement in the earth's crust seems consistent with several geologic discoveries. For example, North and South America seem to have broken loose and drifted away from Europe and Africa. Some such action has resulted in the formation of separate eastern and western hemispheric continents. Also, our speculation about movement in our crust includes ideas about formation of the Mid-Atlantic Ridge. ²⁶⁴

In the past, we might imagine that our Western and Eastern continents were much closer together. At that time, the Atlantic Ocean would have been just a narrow channel. But, subsequent lithospheric action caused the plates on the floor of the narrow channel to divide into east and west parts that slowly separated from each other. As the crack made contact with the upper level of the earth's mantle, molten material ascended into the crust forming the Mid-Atlantic Ridge. During this action, the two American continents moved away from the European and African continents without allowing the Atlantic plates to plunge under either of them. So, the plates under the Pacific ocean were the ones that bent down under the approaching continental plates. Now, we have earthquake and volcano areas ringing the Pacific ocean and quiet zones around the Atlantic.

We keep hunting for ideas about why the American continents were the ones that broke away from the European-African structures. But, we know that earlier upheavals created mountain ranges that ran north and south on the west side of the original land mass. At the same time, the large east side of the thicker part of our crust had few of these north-south rough places. Also, we know that a long right angle protrusion on side of a spinning ball can offer considerable resistance. Thus, we must estimate the magnitude of friction that the chain of the Rocky Mountains, Cascades, Sierra Nevada, Sierra Madre and Andes might make with our atmosphere.

Our Mid-Atlantic Ridge formation still needs a mechanism that would account for its developing on our earth. The European-African continent appears to have moved as far east as our American land mass has drifted west. So, our ridge is really almost in the middle of the Atlantic ocean. Thus, our explanation must show how our American continents dragged

along the crack, which reaches through the crust into the mantle, half as fast as they moved. Then, we must realize that, when material oozes up through the crack and solidifies, the weakest line is still in the middle. So, our middle line progresses westward half as fast as the American continents. To complete the picture, we only need to know that the Pacific plates bend under the Asian continent about as easily as they curve under the American continents. Our big action occurs in the middle of the Atlantic and the edge of the Pacific oceans.

What May Have Happened During Precambrian Periods

We can speculate about how our earth developed in its early stages, without arriving at any firm conclusion. Even so, our present projections of what has happened give us some ideas. Then, the increasing volume of information that is arriving from space may enable us to build a more reasonable mechanism at any time. But, with our superficial information, we can still make some probable statements about action and time. ²⁶⁵

In the azoic era, reaching from more than five billion to about three and one half billion years ago, our planet must have gone through a violent period of cooling. Its mantle and lithosphere probably formed to resemble much of their present structure. Minerals passed through many transformations into rocks that occur even now in these subsurface layers. We can be certain that the development and movement of earth's crust produced intense volcanic activity. Earthquakes must have rocked its surface with greater shocks than we could dream of today; mountains must have heaved to form the ranges that we have on our continental plates now. Also, water condensed in huge amounts, so wild rains and winds eroded our land quite deeply.

Toward the end of the azoic period and near the start of the archeozoic era, the atmosphere of our earth must have been highly reducing chemically. We think that the principal gaseous constituents were water vapor, ammonia, carbon dioxide and hydrogen sulfide. Considerable methane and ethane may also have been present. Now, we know that this gas mixture, under pressure, will synthesize amino acids at warm temperatures, when suitably activated. Then, many aluminosilicate mineral surfaces would have served as catalysts to speed up these chemical reactions. Thus, alanine, glycine, cystine, serine, glutamic acid and aspartic acid probably originated quite spontaneously to become the first protein building blocks for

life.

In the archeozoic era, from three-and-one-half to one-half billion years ago, chemical processes began to enlarge amino acids. Our elementary building blocks united through chemical bonds into a double helix structure of the simplest DNA and RNA proteins. These special proteins became complicated enough, by the middle of the era, that life appeared in the form of viruses. Such live viruses are familiar to us today as the cause of the common cold and other viral diseases. As the DNA and RNA became more advanced, life became more intricate and this evolutionary process developed living cells, like bacteria, protozoa and algae. Much of this development probably occurred on the bottom of oceans where pressures were great.

Our first division of life into plant and animal kingdoms may have occurred during origin of these early DNA and RNA proteins. But, the advantage must have been with the plants for a long time, because they could live in earth's early reducing atmosphere. At the same time, these plants were quite obliging in converting our earth into a habitable place for higher animals. The algae and other tiny green plants took-in carbon dioxide and water while they gave off oxygen. The magnitude of this process eventually built up the oxygen content of our atmosphere to its present twenty and one-half percent of this gas by volume. As the oxygen content of the atmosphere increased, animals evolved respiratory systems that breathed in this oxidizing gas. They consumed the plants as food, breathed out carbon dioxide that the plants used for growth and finally died to make plant food. So, plants and animals became complimentary kingdoms of living things. *Udo*

In the Proterozoic era, one-half billion to one million years ago, living things became more complex both in ocean and on land. Our speculations suggest that spontaneous chemical reactions created more advanced building blocks for life. DNA became capable of directing the organization of living structures with more than one cell. RNA gave the instructions that set such growth processes into operation. Gradually cells organized themselves into many small soft animals, like sponges, worms and rotifers. Only under special conditions did these species form fossils that we can find today. Undoubtedly plants also developed greater complexity in this era through the restructuring of their building blocks. Just how our rearrangement of protein molecules occurred remains a most intriguing problem. Thus, attempts to unravel causes and

mechanisms must continue indefinitely.

Geological Eras

Our studies of earth's development during geological eras have received impetus from research information obtained in Antarctica. Our crust has undergone less disturbance near the south pole, while elsewhere heaving and wrinkling have been more widespread. Also, ice that was frozen at different times still contains gases that are somewhat representative of the atmosphere at the moment of freezing. Thus, research in this part of our earth under quite difficult conditions becomes highly rewarding. *267*

Also, at present we have powerful scientific tools for studying formations and fossils, which gives us valuable assistance in determining what happened in our earth and when the incidents occurred. Mass spectrographic analysis for isotopes of special elements enables us to age-date ancient materials. Such chemical analyses of rocks in our crust tell us the nature of substances found at different ages and depths. In addition, rock physical structure and magnetic orientation provide some of the story of earth's geological development.

During the paleozoic era, one million to three hundred thousand years ago, plants became well established on land. Where the temperature was favorable, vegetation gradually became quite luxurious. Then, at particular times and to degrees that stretch our imaginations, these died and formed enormous piles of partially decomposed organic matter in lakes. Next, erosion and ground movement covered some of these lakes with layers of dirt and rock. Under the pressure of rock overburden, this carbonaceous material turned into coal sometimes a hundred feet thick. Also, particulate organic matter, like pollen and algae, accumulated in pockets on the ocean floor. Again, flow of water and ground movement swept this colloidal accumulation under layers of rocks. When the pressure became great enough, water that contained the dispersed organic matter migrated upward through sand formations into inverted cups of impermeable formations. While this migration took place, the organic matter turned to oil droplets, which coagulated and gathered in rocky domes as our petroleum deposits.

Throughout this period animals gained more refined DNA and RNA. Then, fish and other sea animals acquired hard shells or skeletons, which either remained preserved or turned into fossils. Thus, we can often determine when an animal lived from

age-dating, even after it is long extinct. From such information, we find that animals followed plants up on continents. Worms cultivated the ground, making vast areas of soil; relatives of the spiders crawled around on land, helping to spread the plants. Actually, we do not know all of the animals that made an appearance in this era or how large they became.

Physical conditions on earth remained relatively severe, while life was getting a better start. Our oceanridge kept enlarging as our continental tectonic plates spread further through the crust. Temperatures must have increased and decreased with the increase and decrease of carbon dioxide and other heat absorbing gases in the atmosphere. Ocean water levels went up and down as glaciers retreated and advanced. So, the appearance of earth must have been changing appreciably. ²⁶⁸

By the mesozoic era, from three hundred thousand to seventy thousand years ago, earth must have looked as it does now. Our big continents were well separated and our land masses had assumed contours that would have seemed familiar. Many kinds of trees appeared and covered much of the land. Then, grasses and cereals grew where trees did not get started. Even plants that reproduced by means of covered seeds became common where the temperature and rainfall were favorable.

Our animal proteins continued to become more complicated and animal life evolved at an accelerated pace. Development of amino acids, such as cystine, isoleucine, leucine, lysine, phenylalanine, threonine and tryptophan, seemed to have sparked the activity. In this period, an astonishing assortment of turtles, crocodiles, lizards and dinosaurs inhabited both ocean and land. Some animals, resembling huge bats, could fly almost like birds. We may think that they failed to survive, because they did not solve their problems of reproduction, food, water and cooperation. But, our birds with feathers did form stable species, as they were successful in finding solutions to these problems of survival.

Then, mammals entered the scene, who could nurse their young with the milk supplied by the female as procreator. But, our extraordinary animal development came when mammals started walking upright on hind legs. Now, scientists are on the trail of the story about how this forerunner of human beings walked us into the modern age.

Our Atmosphere

We may be reluctant to speculate very much about what

happened in our atmosphere during the early events that occurred on earth. We know that winds, evaporation and rain must have affected the water vapor content of this air. At least, our humidity must have tended to decrease with decreasing temperature, throughout earth's history. Also, our original atmosphere component, ammonia, must have undergone several chemical reactions and finally turned-up as nitrogen gas by the time plants became luxurious. During this same time, the hydrogen sulfide and hydrocarbon gases must have disappeared. Then, finally as plants took up carbon dioxide and gave off oxygen, so we reached our present nitrogen-oxygen mixture, our sea-level atmosphere became stabilized. ²⁶⁹

Now, we have considerable information about the distribution of our present gaseous surroundings. Our Troposphere reaches out about ten miles from earth's surface. In our first layer nitrogen and oxygen are distributed largely according to gravity, while carbon dioxide and water vapor are the great absorbers of heat radiation. From this point out to about fifteen miles, we have the Stratosphere in which our air is quite rare. But, this layer does contain dust from meteors. In the next layer, called the Mesosphere, the low concentration of oxygen molecules meets a high intensity of activating rays. The resulting chemical reaction produces ozone that forms earth's protective blanket against these rays. So, ultraviolet light, X-rays and gamma rays have their intensity greatly decreased. Also, some of the heat rays that are aimed at earth are absorbed, making this layer as warm as 200° F. Then, from forty to one hundred miles above our earth, the Thermosphere forms a layer where activation starts and which has some of our best luminous displays. Next, from one hundred to one thousand miles up in our air the Ecosphere serves as a real vacuum layer, where we put communication satellites to circle our earth. Outside of this layer is the Magnetosphere, where our Van Allen belt displays the enormous ionization of adjacent space. Still, down on earth is where scientists can find the most important problems to command their attention.

Practical Problems For Earth Science

Of all the problems that face the students of our earth none may be more important than charting and predicting earthquakes. The potential damage and loss of life from severe tremors in the crust of our earth may be enormous. As a response, we have extensive studies underway to map faults and

to determine the change in structure of tectonic plates near such fractures. Our efforts to discover the probability of these faults slipping concentrate on three predictions, where an earthquake will strike, as near as possible when the tremor will occur and how great the destruction will be. These investigations have a long way to go before we can get the information that we need. Still, the progress that we have made thus far in earthquake studies gives us a powerful approach to our belief in working on problems. ²⁷⁰

We have great need for better weather predictions on a short time, yearly and long time basis. These estimates must consider many physical conditions at various levels in our atmosphere including temperature, pressure, humidity, wind direction, wind velocity and cloud formations. These conditions are subject to rather drastic changes from place to place and from time to time. So, our fluctuating aerial information becomes important in helping us decide what is going to happen to our weather. Also, relationships between these atmospheric variations and oceans as well as mountains require consideration for weather forecasts. We know that an instantaneous weather map is a complicated diagram. We need cloud photographs from satellites and all of our physical measurements. Then, our weather predictions demand a series of these instantaneous maps, before they become reliable.

Our weather is what we live with every day. Thus, better short time predictions of rain, snow and fog are important for most events in our lives. In particular, we need this information for daily agricultural plans. Also, traffic safety can be enhanced and air travel can be more pleasant, if we know what weather to expect within each day. Such surprising number of activities hinge on this knowledge that weather forecasts are popular items in the news media.

When we can determine more accurately how much snow and rain to expect over a one-year period, we will have made important forecasting progress. Fresh water is an extremely important essential for human consumption, household use and industrial processes. So, we want to know if we are going to have enough to supply these yearly demands. Also, our agricultural businesses can make good use of information on water expectations for a twelve month period. Fresh water for farm crops is a decisive factor in determining yield and thus deciding the amount of food that we will have for consumption. We would like to have our predictions help us get prepared for

excessive winter snow fall and substantial spring rains. Then, we can always hope for a preview of summer rainfall. If the amount of rain is going to be above normal, we can make our plans to fit the showers; if our rainfall is going to be normal, we can relax; if a drought is going to take over, we must conserve more water and start cloud seeding. ²⁷¹

Long term weather forecasts seem to become increasingly important as fluctuations in rainfall become greater. Our plans for insuring our future water supply or protecting our land from flooding might need to start now. Certainly, we must expand our efforts to recirculate all kinds of waste water. Then, if we could anticipate the weather that will face us after a few decades with any accuracy, we might decide what other preventive measures to take. So, we will always be trying to determine what the trend in snow and rainfall will be over the years.

Our most hazardous weather structure is the hurricane and its counterpart the tornado. Currently many studies focus on determining the origin of these cyclonic winds that do so much damage. Apparently, when a vortexical motion of air gets started, the whirling structure tends to grow larger and the circular velocity tends to become greater. But, this growth may take place only as long as the structure reaches down to water or land. Thus, if the vortex rises far into the atmosphere, the rush of air from the bottom into the lower low pressure space may drive the structure upward until it disappears. Possibly, control of hurricanes simply involves boosting the swirl far enough into the air for it to become unstable. So, our weather studies have considerable momentum toward detecting and controlling these devastating winds. Hopefully, we can expect some positive results at an early date from our efforts in this area.

CHAPTER 31

PHYSICAL SCIENCE STUDIES

Who can doubt the strength of Problem-Solving, when our physical sciences provide us with such exciting examples of progress?

Knowledge and understanding of physical sciences has proliferated in the twentieth century until this advance staggers our imaginations. Quite obviously, our rapid growth in scientific know-how is the result of activists dedicating themselves to solving multitudinous problems and getting busy working on them. We have tremendous enigmas in all fields of energy, radiation, matter and how matter is put together, while more questions appear unceasingly. Our puzzles represent such great challenges that we naturally accelerate our efforts toward understanding all that is going on in our physical Universe. We must develop better theories, better mechanisms and better mathematical expressions for all kinds of physical action. In this framework of searching for improvements, our pressure for progress is enormous, so our results are astonishing. All doubts about the strength of our continuous struggle to open up new vistas of comprehension disappear in the excitement of discoveries in Physics and Chemistry.

Physics

We must have had an early introduction to physics in our lives, when we experienced gravity as a force that made us fall down. Even so, science had little insight into this attractive force until Newton made his quantitative studies. Up to now, we have tended to think that gravity provides a relatively weak interaction for objects in our Universe. Of course, our universal force between objects holds us down on earth's surface quite

well. But, we feel very little pull from other objects around us. Here, what we overlook is that this force between two objects is proportional to the product of the masses and inversely proportional to the square of the distance between them. Thus, even though our gravity constant is small, its force can be very great between large dense objects that are close together. Now we learn that many large objects out in space are shrinking at significant rates. Our dwarf stars with their tremendous density must have very large energy of attraction. Also, our "black holes" tell us that gravity may be an incredible force to be dealt with in the Universe, as it creates our potential energy. So, naturally we test every theory of gravitation, including Einstein's remarkable ideas, wherever possible.

Our efforts to understand the motion of objects and fluids have passed through many interesting stages. Newton introduced us to the simple laws of motion, which enabled us to grasp the concepts of mass and inertia in the realm of kinetic energy. For the case of gases, we found that increased pressure contracted the volume at a given temperature, while increased temperature expanded the volume at a given pressure. When we applied our mechanical principles to motion in liquids, we discovered the need to consider pressure, temperature and viscosity. So, our simple mechanical studies brought us directly into probing the kinetic theory of matter. Our use of rules governing motion of solids became greatest for the purpose of inventing machinery. With our levers, wheels, shafts and bearings, we have created a mammoth number of machines to serve our needs for doing work.

Our molecular hypothesis made us completely aware of temperature as an inherent property of matter. We must have discovered quite early in history that we could produce heat by rubbing one object against another. Such discoveries led physicists to general laws governing transfer of heat into work and work into heat. These laws of thermodynamics introduced us to the practical concepts of specific heats and intrinsic energy. We learned that physical and chemical processes result in conservation of energy where input equals outgo. Thus, the increase in intrinsic energy during a process is equal to the heat taken in minus the work done. Also, we discovered that net heat flows from hot to cold objects. No self-acting procedure can transfer heat from a body at lower to one at higher temperature. Then, we even have a tendency for each limited process in our Universe to run down. Also, each object has a special property,

which we call its entropy, that is determined by the heat necessary to bring its temperature up from absolute zero. As these rules came into our understanding, our ideas about transformation of energy advanced considerably.

With increased knowledge of molecular physics, we quickly opened up the secrets of sound and seismic waves as vibrations in matter. These periodic expansions and contractions of molecular structures require mechanical activation, like vibrating strings or oscillating columns. Now, we are well aware of the rules these waves follow. We can even understand the frequency, amplitude and energy of these vibrations. Further, our studies focus on how the velocity varies with the nature of the transmitting media and what kind of reflection, interference or superposition might be encountered by sound. So, this information becomes increasingly valuable in our technological world.

Attraction of amber, which we rub with a cloth, for certain materials and the pull of magnetite rock on iron particles ushered in our study of electricity and magnetism. Soon, we discovered positive and negative electrical charges and the rules governing the force between them. Our recognition of magnetism with its north and south poles occurred at about the same time. Then, we were able to connect the two phenomena by studying the effects of electrical currents producing magnetic fields around the conductors. After the work of Maxwell, electricity and magnetism almost became one word. With the discovery of the electron that has a unit negative charge, we knew that all matter contains electrically charged particles. Each atom consists of a positively charged nucleus surrounded by electrons. All kinds of electromagnetic energy relationships exist in these atoms depending on the size of the nucleus and the position of the electrons.

The practical use of our electromagnetic force has escalated in recent decades, so we are highly dependent on it for many services. Present day illumination, heat, rotary motion, communication, computation and regulation rely greatly on electricity. With the expansion of technology, electrical power has become one of the principal rapidly growing sources of energy for our daily lives.

Light is the term that describes radiation, which enables our eyes to distinguish objects, shadows and colors. Its rays bounce around from object to object so that the angle of incidence equals the angle of reflection. Then, when light passes from one medium to another it suffers refraction. So that, using the laws

of refraction, we can make many kinds of optical instruments. Thus, our explanation of these optical phenomena must consider light as consisting of wave motion. And, when we measured the velocity of light propagation, we obtained a value that was consistent with its beams being electromagnetic waves.

We were frequently confused by our optical radiation having the property of a beam of corpuscles. Then, after we explored the origin of light, we became convinced that light existed as small packets or quanta. Also, we found that this radiation actually had enormous variation in wave length from the longest radio waves to the hardest gamma-rays. Of this diversity, only a small section of wave lengths can give our eyes that wonderful sensation of light.

Our need for understanding the origin of electromagnetic waves led to the development of quantum physics. When we learned that this radiation occurred in quanta, we realized that such units would have properties of particles that we could call photons. Our spectroscopic studies showed that electronic orbits in atoms have quantized states. Also, transfer of an electron from one state to another either produced or absorbed a photon, depending on the energy of the states. As an unusual step in progress, we recognized that electrons had wave characteristics and spins on their own axes. Then, a whole new treatment of atomic energy processes, called quantum mechanics, came into being. We may have become uncertain about positions and motions of our smallest particles. But, we have developed an advanced mathematical approach to many operations involving particles and electromagnetic radiation.

Early in the twentieth century, Einstein advanced the theory of relativity that formulated new notions of space, time and mass. According to this theory, we have an infinite number of inertial systems of reference moving uniformly and rectilinearly with respect to each other. Physical laws assume their simplest form in each reference scheme. In all of our inertial systems, the velocity of light has the same value, when measured with rules and clocks of the same kind. As theorists expanded these ideas, they discovered that true laws of physics hold in the same way within various systems of reference for arbitrary motion. Such systems of reference just change with the velocity. Thus, our general theory of relativity, which releases us from absolute space and time, has far-reaching application in many branches of physics.

Studies of natural radioactivity gave us an introduction to the

wonderful world of atomic nuclei. Then, we discovered that bombarding atoms with various nuclear particles could produce artificial radioactivity. Immediately, physicists started looking for all kinds of nuclear reactions. So, they soon found that protons, neutrons and other small particles sometimes served as reactants. As must eventually have been expected, some discoveries indicated that large nuclei may break apart to form smaller ones and the smallest ones may fuse to form helium, with the loss of mass. Such an idea was world shattering. According to Einstein's special theory of relativity, when mass is lost in any nuclear reaction, a tremendous amount of energy, mc^2 , is created. Then, our most dramatic demonstration of this change of nuclear mass into energy occurred with the explosion of the atomic bomb.

Theories of nuclear transformations suggested that we must have anti-particles, which were discovered quite promptly. When quantum hypotheses demanded compensating particles for feeble nuclear interactions, we originated neutrinos to supply these "weak" forces. Naturally, we needed particles that would move from one position to another to produce energy for "strong" interactions in nuclei. So, we contrived mesons, baryons and various other hadrons to fill this need. In addition, four very small nuclear particles may be organized as quarks. Such probing into the atom goes deeper and deeper and deeper with the passing years and our discoveries make progress in nuclear physics highly fascinating. ~76

We have a strong inclination in science to bring unity out of diversity. Thus, physicists are currently engrossed in searching for unifying ideas about matter, forces and radiation. Our ideas have decreased the number of different kinds of basic elementary particles and now our theorists are attempting to discover a theory that can build them all out of one grand fundamental variety. Also, we have our "weak," "strong," "electromagnetic" and "gravitational" forces that differ by almost 40 orders of magnitude. But, our quest is on to discover some unifying theory that will explain all forces in terms of one basic type. Our tremendous hope is not liable to make our science simple, but we can program remarkable developments for the future of physics.

Chemistry

Our chemical science searches vigorously for more details in our understanding of matter, how we can change it and the

energy involved. Atoms with their complex outer shells and inner nuclei stimulate many adventures; molecules with their many types of bonds impel us to delightful explorations; molecular structure with its myriad ways that atoms adhere together drive us to greater inquiry; reactions with their velocities and equilibrium conditions are quite attractive puzzles to pursue; synthesis with all of the ways that we can put compounds together casts an experimental spell over us. Thus, chemistry has become a tree of knowledge with branches that develop sub-branches and many other extensions out to fine twigs. Each extension of this science has its own special theories and each fine detail has its own direction of investigation. So, we get busy and test our theories using amazing research tools.

Our science of atoms and molecules received its real start with the discovery and naming of elements. Although we had identified quite an incomplete list of elements, our studies took a giant step forward with the development of the periodic system by Mendeleev. When ordered according to atomic weights and placed strategically into several horizontal periods, our elements in vertical groups had remarkably similar chemical properties. We usually put hydrogen and helium in the first period. Then, we had two short periods with eight elements, two long periods with eighteen elements and finally a very long period with thirty two elements leaving another incomplete period. Having such a system, our periodicity in chemical properties of elemental groups enabled us to search for absent members, until we had filled out our chart. ~77

Rather promptly we corrected our periodic system by using atomic numbers or the charges on the nuclei, instead of atomic weights in ordering elements. As we studied the detailed mass of atoms, we discovered that most elements had two or more atomic weights. Electrons in the various energy states outside of the nuclei were identical. But, the number of neutrons in the nuclei were different. So, we called these atomic forms isotopes of the various elements. Now our expanded charts list isotopes in terms of the particles inside of the nuclei as well as their atomic number.

Most of our chemical materials are compounds that consist of two or more atoms in combination. These structures form the mass of different molecular substances that chemists love to build in the laboratory and use in their experiments. We have discovered that compounds could fit into different categories depending on their solubilities in water and oils. Quite remark-

ably some of the molecules that dissolved in water conducted electricity, so we could refer to them as electrolytes. These disclosures led to the designation of conducting substances as polar and even as being dissociated into ions. Also, we referred to the oil soluble substances as relatively non-polar, which opened up the study of relative polarity.

At this point, we embarked on the exciting search for identification of different types of chemical bonds. Our electrostatic bond was rather obvious between ions of opposite charge. But, our electron-pair bond was slower in coming to light and its complications were delayed further. Also, our hydrogen bond was quite elusive. Now, we search for still other means of chemical attachment with great enthusiasm.

Much of our early studies of chemical reactions involved inorganic compounds that did not contain carbon with C-C or C-H bonds. In this branch of chemistry, we experimented with all sorts of non-carbonaceous compounds that might have contained almost any of the known elements. Because these compounds were largely polar, we dealt mainly with their aqueous solutions, so, most of our inorganic chemical reactions occurred in these solutions. As acids, bases and salts were among our most popular inorganic molecules, we were largely concerned with the neutralization process and the pH of our solutions. Certain salts had low solubilities and we could use this property in identifying many elements and in making separations.

When we correlated physical properties of chemicals in Physical Chemistry, our studies overlapped greatly into Physics. Here, the behavior of gases, liquids and solids had peculiar significance in the development of our chemical knowledge about matter. We needed considerable physical information about compounds in studying their reactions. Solutions demanded understanding before we could expand our perception of most molecular performance. Also, we needed to comprehend our x-ray structure and phase rules to become aware of what was happening, when we dealt with solids. 278

Our probing thermodynamics occupied a key role in enabling us to grasp the importance of energy in chemical reactions. We soon realized the importance of free energy change as a means of determining whether a reaction would proceed or not. We are certain to continue these investigations on an expanded scale.

Other branches of Physics quickly became important in Chemistry. Now, all kinds of light spectroscopy and microscopy have become prominent in identifying and investigating ele-

ments and compounds. Here, line spectra, raman spectra and absorption spectra are a few of the more useful tools for chemists. We also employ mass spectroscopy and electron microscopy to considerable advantage. We have become aware that the use of these tools is leading us into the new field of quantum chemistry.

Most of the elements in our periodic system turned out to be metals, materials that have a shiny appearance and conduct electricity well. Then, studies of the electrochemical behavior of metals in contact with solutions created Electrochemistry, one of the important branches of our science. Here, our electromotive series of metals had significant meaning in theoretical chemistry. Potentials of various cells could give us quite useful thermodynamic information. Besides, we must try to find better ways of storing electrical energy in storage batteries. 279

The performance of most metals is not exactly what we might expect from their position in the electromotive series. The passive state has been a fascinating condition to study. Then, we will always have momentous problems of corrosion and fatigue to keep us busy learning more about metal behavior. Now, we have solid-state electronics that offers extraordinary possibilities for future technology. Already we carry our pocket calculators around with us; eventually we may have our solar semiconductor cells lighting our houses.

Our curious imbalance of forces at the surface of solids and liquids brought Colloidal Chemistry into existence. Such discontinuity at these surfaces always produces a surface or interfacial tension. In addition to such effects, we have adsorption of atoms, molecules or ions on these surfaces, usually only one layer deep. The results have been quite astonishing in causing the scattering of fine suspended materials in gases, liquids and solids. Liquid water dispersed in air forms our fog and clouds that we need to bring rain; solids and liquids dispersed in our atmosphere are the smoke, dust and smog of our pollutants; gases dispersed in liquids form foams, such as whipped cream; liquids dispersed in liquids make emulsions like mayonnaise; solids dispersed in liquids are the common colloids that we find in soap solutions. We may even have gases, liquids and solids dispersed in solids. But here, we have some difficulty observing the electrical charge on the dispersoid, which is typical of colloids in general.

We finally realized that the occurrence of these colloids is far reaching in nature. All living things seem to be full of these

dispersed materials. Also, the food that we eat contains many kinds of colloids. But, the structure of such systems was complicated enough that we had to use special tools, while studying their properties. This work called for electro-dialysis equipment, ultra-centrifuges, ultra-microscopes and electron microscopes. Naturally, other devices came into use as we confronted the many problems of chemical dispersoids. We can scarcely over-emphasize the importance of extending our knowledge in this field.

Our science of Organic Chemistry soon expanded almost without limit, as our compounds of carbon became so numerous and so varied. Carbon atoms join up with carbon atoms and to minor constituent atoms using the non-polar type of chemical bonding. So, when we discovered that each carbon atom could be joined to another with single, double or triple bonds, the bonding possibilities increased considerably. Also, as we realized that each carbon atom contributed to four covalent bonds, the number of compounds that we could form became great. Our carbon atoms can form chains of considerable length with side chains, as well as five and six member rings with many attachments.

We promptly divided up our organic chemicals into two major forms, aliphatic and aromatic compounds. The aliphatic forms have carbon atoms in chains and the aromatic forms have carbon atoms in hexagonal rings, in which three out of the four carbon bonds hold the six member ring together. In each of these two divisions, we have an assortment of hydrocarbons in which the carbon atoms are simply bonded to hydrogen atoms as well as each other. Then, we discovered a mass of compounds of carbon, hydrogen and oxygen, including alcohols, aldehydes, ketones, acids and esters. Also, our organic chemicals containing nitrogen, like amines, amides and amino acids became quite important. Besides our two main divisions, we found heterocyclic and multicyclic compounds. Then, our studies disclosed polymers of all kinds of simpler molecules and materials that contained many other elements.

When we encountered a new organic substance, our investigations involved analysis, determination of molecular structure and probing for chemical and physical properties. Afterward, we might study its special reactions and attempt to synthesize it from simple molecules. Any special bonding between atoms and groups of atoms always offers a real challenge for research. Then, we have usually confronted problems of determining the

utility of our substance. These studies have led to the discovery of more materials than we can mention, including drugs, detergents, fibers and synthetic rubber. We will not stop our synthesis of materials just because we have made a million organic compounds.

In the fantastic realm of Biochemistry, we engaged in vigorous research to understand the chemical basis of life. Our studies took over every facet of organic, physical and colloidal chemistry that can be applied to this work. Then, these enquiries added the exciting feature of probing life's chemical processes in action. Our challenges in this science are greater, because molecular structure and action are more complicated and principles are closer to our lives.

Our plant life studies included the probing of how photosynthesis and enzyme catalysis can build botanical materials, like carbohydrates, fats and proteins. We developed increasing eagerness to acquire knowledge of glucosides and how they act to build up sugars and other carbohydrates. Triglyceride synthesis occupied our interest as we tried to figure out how vegetable oils are put together. But, our overriding devotion remained in understanding how proteins are constructed. Even our investigation of the double helix structure in DNA and RNA must have started in the general realm of botany.

In the chemistry of animal life, our research interests become considerably broader. Here, we found that animal bodies are more complicated than plants and nutrients taken by animals are subject to more diverse processes. These creatures have systems of nerves, muscles, bones, tendons, circulating fluids and organs to carry out special chemical functions. Our chemical processes in animals must produce energy as well as build tissue. Also, our studies of DNA and RNA became particularly enchanting here, because of the possibilities of observing rapid changes in animal structure and performance. So, investigations in this biochemical field have offered remarkable opportunities for probing how the Universe works.

CHAPTER 32

BIOLOGICAL SCIENCE STUDIES

Are our biological sciences keeping our knowledge of life expanding in accordance with our belief in Problem-Solving?

Our fundamental studies of how life originated and progressed seemed slow in getting under way. Most early activity, like that of Aristotle, must have simply comprised collection, observation and rough classification of plants and animals. In those days, we could see only the gross aspects of biological specimens. Then, in the 16th century the microscope provided an extraordinary impetus to our science of living things. As our microscopes became more and more powerful, we could observe smaller and smaller parts of plants and animals. Cells became real instead of theoretical, because we could perceive their divisions and subdivisions. Now, with our electron microscopes, we can even determine the structure of some biological molecules. Our science of universal concern about life spread out into Molecular Biology that merged with Biochemistry and became an outstanding example of our belief in working on problems.

Early carvings of plants and animals, as we find them on the walls of caves, do not look much like the specimens that we know now. Our earliest biological reports were just not clear about details of specimens studied. Even sketches of what we saw while looking in our first microscopes were scarcely satisfactory for recording observations. Then, along came photography and we could catalogue what we observed accurately and could preserve our descriptions indefinitely. Now, color photography enables us to report flowers in their full beauty with many contrasts in appearance. Also, moving pictures disclose what parts of plants and animals engage in motion. Thus, we have become able to study structure, organization and

function of life in great detail.

The scope of our biological studies has become enormous, precluding our present discussion getting entangled in details. Paleontological investigations of past geologic periods may even be included. Botany deals with multitudinous species from algae, mosses, crop plants, vegetables and ornamental plants to trees and bushes. In bacteriology, our considerations cover cell structure and composition for all kinds of micro-organisms. Also, in zoology the animals that we study take in great numbers of protozoa, worms, insects, fish, reptiles, birds and all sorts of mammals. Then, for medical purposes, biology has developed great activity in trying to understand human anatomy and physiology. And, with its extraordinary expansion into molecular biology, we have pronounced emphasis on the study of genetics, heredity and evolution. We need only make a brief survey to disclose the delights that illuminate new possibilities for biological progress.

Problems With The Early Start Of Life

Many types of amino acids must have formed prior to the start of life, although they must have been quite simple for a few billion years. Our favorable relationship to the sun received valuable assistance from layers of gas surrounding our unusual planet. Its atmosphere contained considerable water vapor and carbon dioxide, so earth could absorb heat rays from the sun to provide an advantageous temperature. We also had our ionosphere to deflect the solar wind that might have made our earth unfriendly to life. Then, gradually a layer of ozone developed to screen out some of the ultraviolet light leaving a strategic mixture of radiation to reach earth's surface. Further, we know that our gases contained ammonia, hydrogen sulfide and oxygen, so some of the necessary ingredients were here for life to start.

Our ideas about the chemical reactions that led to the natural formation of essential amino acids are bogged down in conjecture. In the first instance, early thermodynamic conditions may have been unfavorable on earth's surface much of the time and most of the places. We can experiment with these compounds in the laboratory at atmospheric pressure. But, under these conditions amino acids tend to form carbon dioxide, water and ammonia, when some oxygen is present. Thus, our vital chemical reaction may have tended to go in the wrong direction, except in special situations.

Now, we think that our basic amino acid reaction responded favorably to reducing conditions, increased pressure and activation. Thus, our idea has naturally been that the bottoms of our oceans were the places that furnished all of these favorable conditions. Gas solubility in water would have tended to concentrate carbon dioxide, ammonia and hydrogen sulfide in these locations. So, the chemical reactants and the reducing conditions would have been present. The pressure would have been great under all of that water. So, this set up might have been an ideal high pressure reaction vessel. In addition, the aluminosilicate sediments that must have been in abundance on ocean floors might have been all that were necessary to speed up our amino acid forming reaction. Thus, chemical processes may have been creating these building blocks for the proteins of life over a period of a billion years.

Carbohydrates may also have had a spontaneous start on earth. Earliest conditions may have been such as to form simple hydroxy organic compounds from carbon dioxide and water. Here again, we had a reaction that must have been pressure sensitive and must have needed a reducing atmosphere along with a catalyst. So, our present knowledge suggests that such reaction might have been most successful on the surface of some sediment on an ocean floor. Our confidence can rest on the fact that plants carry out these reactions with the aid of sunlight and catalysts.

We actually have other building blocks for life that may have had very early beginnings on our ocean floors. Also, our reaction mechanisms for the building of these chemicals may need revision. For instance, we have unusual carbon chains that must have been arriving from space during the time that life was getting a start. Thus, we search constantly for better ideas about origins of living things.

Nucleic Acids

An advanced type of spontaneous chemical reaction must have produced what we call nucleic acids. These larger biological building blocks consist of chains in which sugar radicals are connected by phosphate groups, while each link in the chain has an amine group. Thus, in our early days one such link of five carbon atoms, with its hydroxyl, amine and phosphate groups, must have formed a connecting variety called a nucleotide. Now, we know that whole chains of many nucleotides can join with other nucleic acids to form proteins for our biological

tissues. So, our nucleic acid type of chemicals must have led us to the fringe of life.

We have tried to make nucleotides out of sugar, amino acids and phosphate salts with little success. But, we are certain to struggle until we discover proper chemical conditions and a suitable catalyst. Some place on earth before the advent of living things, the conditions must have been right for this complicated reaction to occur naturally. Some of our guesses include the idea that these reacting groups united, while adsorbed on phosphate rocks at the bottom of oceans. At least, availability of amino acids, hydroxy compounds, phosphate ions and some catalyst must have played a key role.

Viruses

As we take our first step up into the realm of living things, we encounter many viruses that are protein aggregates of nucleotides and nucleic acids, which must have shown the first signs of life. Now, we know that these smallest of living organizations appear in different shapes and sizes, which takes an electron microscope to disclose. In spite of our ignorance, we know one challenging thing about these viruses. They are essentially parasites. At least, they appear to be active only when they are attacking a host cell. Also, they seem to duplicate themselves only when inside a higher form of life. Thus, we must search for ways in which our viral particles might have developed naturally. We want replies to our many unanswered questions about these protein aggregates.

We must study viruses with increasing intensity, because our viral particles produce many serious diseases in plants and animals. Among our many human viral afflictions are: chicken pox, common cold, influenza, german measles, mumps, polio, rabies and viral pneumonia. Some of these viruses have the ability to develop mutations and produce different strains of a disease, while attacking human cells. Thus, these diseases have been responsible for enormous waste of human achievement and we must exert expanding effort to control the activity of these parasites.

Living Cells

Our biological studies have shown that living organisms, which are large enough to be observed under the ordinary microscope, display micro-structures that we call cells. Usually these cells are somewhat spherical in form. But, when we study

larger plants and animals, we find that the variety of cell shapes can be great. Particularly, the function and stage of growth of these small structures seem to influence their shape drastically. Also, the size of our biological units is by no means a constant.

We soon discovered that the structure of a typical cell of the simple type is still relatively intricate. It has a porous outer wall that has many important functions in providing cell intake, making connection with other units and helping with division. The interior is largely filled with protoplasm that consists of proteins dispersed in water. Possibly most important, each cell has a central nucleus that may be surrounded by a layer of interconnecting tissue. Also, the centrosome is a regular minute particle in our unit. In addition many cells have other organs that provide these units with special functions. ²⁸⁶

Any specific discussion of cells has needed to focus on the nucleus as the part that accounts for most of their basic activities. Each of these central bodies contains chromosomes, which are complicated enough nucleic acids to be DNA and RNA proteins. This DNA supplies the genetic code for the development of larger connecting structures; the RNA furnishes the directions for implementing this code. Also, the interconnecting membranes of the nucleus provide catalysts for protein synthesis according to the code. Even the species in which the cell is found is determined by the nucleus.

When a live cell reaches some limit of growth, division may take place that results in the formation of two units just like the original. This dividing process is naturally quite a complicated operation. Both nucleus and centrosome divide in two parts that take positions on opposite ends of the elongating cell. Then, the original wall pinches the elongated unit into two relatively equal parts. The new parts separate from each other and assume the original cell shape. At that point, the new cells have the same structure, the same number of chromosomes and the same type of DNA and proteins as the parent. Our fission process has carried out one of nature's remarkable intermediate growth operations.

We know little about how the first crop of cells could have been created out of their building blocks. Also, the division of these units into equal parts presents extraordinary puzzles. These processes involve chemical and physical enigmas of considerable perplexity. Thus, such problems of understanding will be around for a long time. So, we must apply our scientific efforts quite persistently to developing more enlightenment

about cells.

Large Biological Structures In Pairs

Our vast multiplicity of biological cells have assembled in an astonishing number of plants and animals. The number of both types is so great as to preclude specific discussions of various species to show how they contribute to the Universe in action. But, we must consider that the numbers themselves and the extraordinary variety of sizes and shapes of the species present us with some never ending biological problems.

An accompanying puzzling feature about large plants and animals is their dependence for reproduction on two kinds of cells uniting. Many individual plants develop both of these reproductive units, which suggests that they are dual purpose organisms. But, in animals and some plants our two kinds of cells exist in two different sexes, male and female. In either case, we clearly need some pairing mode for creating progeny. All of our biological reproduction requires complicated chemical action after the union of the two cells. ²⁸⁷

Our cell union has some common patterns. Male cells are relatively small and usually equipped with means for assisting motion toward female cells. Female cells are relatively large, because they contain ingredients that aid in growth after fertilization. In each germ cell of both kinds, preparation for some subsequent union consists of a reduction in the number of chromosomes to one-half. Our joining together must create a basic unit that contains the right number of chromosomes for the species. Then, our enormous number of species have various ways of bringing two germ cells together. But, the coalition is almost always orderly. Various proteins mingle, half-chromosomes join and normal cell division begins.

Our DNA instruction to our new cell results in the creation of the right species that entered the reproductive process. In plants, the combined means of replication may form roots, stems, leaves, flowers and new sex cells. The final organisms may even become large trees. Whatever the size, each species must develop its own means for uniting its sex cells. In animals, our DNA instruction may be even more complicated. So, we may have a mature human being that can run, jump, think and feel develop from one fertilized egg. Also, the action of its chromosomes must decide the sex of our animal. So, we struggle with our studies of a dual life, although the difficulties involved in understanding these processes seem beyond our

comprehension.

Heredity

Our union of male and female sex cells has the effect of passing on to the offspring hereditary characteristics from both parents. Here, we have each male double helix exchanging partners with a female double helix to form a combination DNA for our new offspring. In the exchange process, both male and female DNA structures must separate and combine in ways that do not form a tangled mess.

We must have splitting of bonds between paired spiral chains without any untwisting of the separated spirals. Also, our recombination must prevent as much untwisting as possible. To surmount such mechanical difficulties, we can imagine that male and female DNA structures split at the same time, while their split ends face each other. Then, one male chain might coil around its opposite female chain, while the other male chain coils around its opposite female chain. Where we have breaking-up of chains into nucleotides, joining these units probably resembles ordinary DNA replication. When stray nucleotides of an opposite sex replace missing links in a new chain, we have a DNA that produces some originality in the offspring. 288

Our sequence of nucleotides along the new DNA chains must specify the structure of these proteins in all new cells. But, these new chains merely serve to carry the code and need managers to carry out the correct assembly. This management requires two special decoding molecules that we have called RNA. The chain-like messenger RNA molecules carry instructions back and forth from the assembly process to various parts of DNA. The L-shaped globular transfer RNA molecules bring up simple groups for protein synthesis.

The direction that is given the organization of protein structures determines what species is formed and what hereditary characteristics the specimen has. Even a specimen of our advanced human species grows from a single fertilized egg, as a result of enormous activity of DNA, RNA and various proteins. Thus, we are not surprised that molecular biological studies focus strongly on these problems of heredity.

Development

After our primary reproductive stage, we have a distinctive start in our life process that determines whether our organism is a plant or an animal. A critical difference in the code of our

DNA molecules decides the momentous alternative of our being stationary or migratory, dependent on uncontrollable outside conditions or able to move ourselves around from place to place in our environment. Our plants and animals really show vast contrasts. So, naturally biologists immerse themselves in understanding the process that leads to such distinctive development.

Our plants have extraordinarily practical organizations for a stationary life. Most of them have systems of roots that either anchor them to the ground or spread out in other places where food is available dissolved in water. These roots possess remarkable properties of accepting mineral nutrients in dilute solution from moist ground or bodies of water. After acquiring such solutions, our plants use a complicated multiple capillary process to conduct this food from the roots up the outer layers of trunks, branches and stems. The surface tension of our solutions can only provide a slight capillary lift up a single tube. So, we have the interesting problem of figuring out how our food gets to the top of a high tree. 289

Rising up our plants, their capillary systems lead to leaves, flowers and seeds. The leaves are flat green structures that wave round in the air to catch the sun's rays. So, fortunately these structures have chlorophyll and other enzymes that catalyze the synthesis of carbohydrates, triglycerides and proteins. We can really appreciate the flowers for their beauty and for their ability to form the sex cells as well as their aid to the reproductive union. Then, the seeds, which are the fertilized eggs that can sprout and grow a new plant, serve as valuable food for animals. Every step in plant development is such a source of wonder that we cannot avoid the fascination of uncovering greater understanding about what is going on.

Our animals show still more remarkable development in the complexity of their internal structures. All of our mobile creatures have muscular systems, which enable them to move themselves and things inside. Many have boney supports for body and appendages, while others do not have these solid structures. Then, some kind of a nervous system must carry messages from a control center to the muscles that must receive directions before they are able to move. Digestive systems take in food, digest it and excrete the residue. In addition, circulatory systems are essential for carrying materials around to where growth takes place or energy is consumed.

As auxiliary structures, our animals usually have organs for providing these systems with special services. Many species have

hearts for pumping liquids in their circulatory systems, brains for feeding impulses to their nervous systems and various organs for processing foods. So, this internal animal organization will be the focus of our scientific studies for a long time. 290

One of the special diversities in animals is the variety that we find in their means for locomotion. Those that live in water have fins or other appendages that enable them to swim easily. Also, such aquatic creatures usually have body designs that smooth out their motion through water. Birds and insects that fly through the air possess wings that they can extend in flight or retract when coming to rest. Some land animals move along without the help of attachments on their bodies. Others have legs with which they walk, run and jump. These means for locomotion are quite useful, particularly when the number of legs is as low as four. Then, when human beings developed with two legs and two arms, we had an animal with extraordinary movement skills. Our science could be greatly stimulated, if we could discover the origin of these diverse ways that animals are able to move.

Food and water are among the most important requirements for the subsistence of animals on our earth. These essentials do not come to animals, so animals must hunt for both materials. And, such search may involve discovering and processing before our animals can do any consuming. Also, each of these operations may represent a remarkable development for animals, because each species may have special body demands. Our active creatures certainly must be able to find nourishing food and potable water. Then, they may need to prepare them for consumption, which may be a simple or a complex operation. Thus, animal skill in these preparations is one of our good indicators of evolutionary advancement. At the top, as human beings, we even raise our own food, process it and determine if it is adequate. Also, we drill our own water wells to obtain this essential material. So, this aspect of animal survival receives considerable attention from biologists.

Our Universe has numerous radiations and other means for identification that most animals can sense. Eyes are obviously among the highest developments of nature. We can wonder greatly at our own optical organ's remarkable ability to detect visible light. The origin of this seeing organ must present a great challenge to scientists probing the Universe. Then, ears for making us aware of sounds are almost an equally noteworthy organ that animals possess. Various sounds have intrinsic mean-

ings that our ears can be trained to identify. But, how animals obtained these auditory organs is a fascinating mystery. Also, touch and smell are among the important means for sending messages that are under command of our brains. With all of these senses, animals are all set-up for communication at least inside of our species.

One of our real puzzling biological developments showed up in our human species, as we demonstrated remarkable mental abilities. We are certain to be slow in building up insights into how our minds can record that information obtained from all of our senses. Then, our abilities to remember these records will not be easy for us to explore. But, still more difficult for us to comprehend is how our minds can use this knowledge to understand what is going-on in our world. Also, our astonishment must increase, as we realize that we can think about how to make things better and reach rational decisions. Studies of how our brains function are bound to occupy our biological research for an indefinite time. 291

As a transcendent biological development, our Universe has provided beautiful emotions for human beings and some other higher animals. Quite naturally, we can display numerous negative feelings. But, the wonderful part of our human lives is the tenderness that we can develop toward others. So, our most exciting biological search may be for an understanding of how our inner feelings can become quite warm and affectionate. We really need to explore in depth how our struggle for human advancement can inspire us to greater achievement in the realm of friendly cooperation.

Evolution

Our ideas about the early start of life being quite normal events make some kind of biological evolution seem reasonable. We have discovered that amino acids and carbohydrate fragments must have come into existence by natural chemical action. Spontaneously these building blocks must have become organized into nucleic acids and simple proteins. Then, our simple proteins must have formed simple DNA and RNA, which proceeded to form living cells with potential for growth and heredity. If we call this elementary process a common source of all life, we make some kind of a theory of evolution an important approach to understanding life.

Some natural process must have created more and more advanced forms of life and we feel that animal evolution must

have had two parts. One of these parts to animal advancement consists of both learning and selective self-breeding, which we have called natural selection. Actually, the process includes all of the measures that members of a species have taken to aid in their own survival. Thus, this idea as formulated by Darwin carries the label "the survival of the fittest." At least, all species must pass this test to stay alive. But, the second part in which our building block proteins have been trying to build more sophisticated DNA and RNA over the millenia seems equally essential. Each species has its own general DNA and RNA patterns. So, if a superior species comes into existence, it must have developed from superior DNA and RNA structures. 292

Our more rigorous qualifications for "survival of the fittest" tests are relatively easy to enumerate. Each new animal species must be able to find life-sustaining food and water. Hazards must be overcome, so our new form of life has some protection from predators, diseases, enemies, natural disasters and harmful environment. It must be able to reproduce itself effectively, so generation can follow generation. Members must establish a measure of cooperation, so the species can develop some ability to work as a unit. Then, our stable species must have a training program that teaches members to do better in all of these endurance tests. Our world changes continuously and all species must learn to improve their performance to survive.

Demonstrations of strength in the "survival of the fittest" idea are rather numerous. We can uncover considerable information, which indicates that our present species have improved in their ability to select food and water. Our examining remnants of extinct species and comparing them with those that have survived suggests that the durable ones could overcome the hazards of living better. In some instances, restraint of killing by human beings has been essential for the survival. Natural selection during reproduction has been an active force in changing many species, until decided physical, mental and emotional improvements have been obtained. Sometimes we might even think that a new species was produced. Now, with the progress of human beings we know what the accumulation of knowledge and understanding can do to advance a species. Also, we are finally realizing that struggles to solve problems can greatly vitalize any form of life.

One of the most interesting confirmations of the "survival of the fittest" process of evolution arises from the fact that human beings can improve plants using procedures similar to those that

animals may have used on themselves. We can greatly increase the growth of plants by increasing the fertility of the soil, providing fresh water at strategic intervals and eliminating insect or other hazards. Then, by cross-breeding plants we have created what may even be regarded as new species. Thus, we may logically contend that animals might give themselves a similar advance.

Our arguments that animal protein fragments naturally build better and better DNA and RNA structures are inconclusive but relatively convincing. We find some similarity in the general DNA codes for animals of every species, which suggests that a simply activated chemical reaction might make considerable difference in these building blocks. All animals have cells that show some resemblance to a general standard pattern. But, cells in various organs of one animal show differences, which demonstrate that nature can create specialized forms. Then, our more highly developed species grow embryos that tend to recapitulate a series of advancing forms of life. 293

Our full grown animals provide some natural evolution evidence. Many species have increased in size over generations, without obvious help from breeding, which advanced their capabilities. Then, when they became too large to pass the survival tests, they disappeared. Paired limbs of animals have become simpler and more sophisticated as the species advanced, until finally they stood up on one pair and became highly skilled with a remaining pair. Many animals show similar gross internal organization. Still, their organs have tended to become better organized as the species have advanced, which suggests that improvements beyond the scope of breeding took place. During the history of human beings real mental geniuses have appeared out of a normal background. Also, we have our remarkable examples of great emotional warmth and tenderness arising in special individuals, who grew up among ordinary people.

Actual demonstrations of the spontaneous evolutionary process on our planet seem possible in our experiments with natural radiations. We are able to create changes in DNA using X-rays and other high energy radiations and to produce mutations in organisms. Of course, we must expect regressive as well as progressive modifications in species, as the result of our radiation treatments. So, this new branch of biology must exercise care in these investigations. But, strategic experiments to create useful modifications or eliminate useless conditions in

animals or plants may help us reach an increasing understanding of evolution. At least, biologists may open up some fascinating possibilities for the future.

Medical Science

Our basic medical knowledge shows great future possibilities for our simplest preventive medicine. In fact, we have made all kinds of progress in medical science, since we discovered that diseases are largely caused by microscopic and submicroscopic parasites. As an example, our simple efforts to improve general cleanliness have helped greatly in preventing the spread of bacterial and viral diseases. Then, our simplest experiments show that we can avoid getting various diseases by avoiding those with these illnesses. We seemed to have performed preventive wonders by largely eliminating germ carriers.

Many physical disorders evade us, when we keep our bodies in good condition and only put things inside that contribute to good health. Regular exercise and deep breathing are powerful means for improving our well being. Self-restraint in the amount that we eat is helpful in our keeping well; avoidance of things either very sweet or to which we are allergic is highly beneficial to physical vigor. Our health can take a strong step upward, when we refrain from smoking tobacco or drinking alcoholic liquors. Various other chemicals are under suspicion as carcinogens and we should avoid them to advance our well being. These preventive medical practices are well tested in large scale observations and we must use others as they come to light.

One of the outstanding developments of medical science is the use of vaccines to prevent viral diseases. We have an extraordinary list of human diseases, like: small pox, rabies, hepatitis, polio, colds and flue, that are caused by viruses. But, no one knew much about these infective agents before the electron microscope. Pasteur developed his vaccine against rabies without knowing what caused the disease, because the virus was too small to be seen with his microscope. What he knew was that human beings who suffer one attack by this disease are immune to further attacks.

Rather promptly our observations of immunity led to the discovery of antibodies that fight viruses, making them harmless. Now, we have both "live" and "killed" vaccines that have been relatively successful in combatting most viral diseases. Small pox vaccine is an effective preventive, when people use it several times; Pasteur treatments are quite useful against rabies,

even after infection; Salk killed vaccine prevents polio, though largely replaced by Sabin oral preparation; vaccines for measles, German measles and mumps are available that give reasonable results; flue vaccines for various strains have been partly effective, when used to prevent the right strain; even vaccines against colds may make an appearance, after interference problems are overcome. Millions of human lives have been saved with vaccines and more millions of us have been spared weeks of discomfort.

Our greatest potential for preventing physical disorders may lie in the improvement of our diets. While food offers enormous possibilities for controlling our bodily ailments, we are too poorly informed and too ill trained to eat only disease-preventing materials. We are not about to break life-long habits of eating, even when we know that a better diet will improve our health. At the same time, good health is not something that we were born with or that we deserve. Good health is a state of our bodies that we achieve largely by eating a strategic amount of the most nourishing food.

Our present knowledge about human food requirements, though quite incomplete, is still very useful in improving our health. Our diets must include carbohydrates, vegetable oils and a wide variety of proteins. Our proteins must furnish eight to ten different amino acids, which are presently recognized as essential for human life. The carbohydrates are vital for construction of nucleic acids and are useful as the most readily available fuel for body energy. The vegetable oils are indispensable, because they furnish the more endurable fuel for energy and supply oil-soluble Vitamins A and E. Thus, these ingredients supply the building blocks for our bodies and the energy for our bodily action.

We have need for many vitamins to regulate energy production and various tissue-building operations in our bodies. These essential regulatory chemicals include Vitamins A, B₁, B₂, B₄, B₁₂, C, D, E, and K, together with other B complex chemicals niacin, folic acid, pantothenic acid, biotin and choline. Each of these food components has an important continuing role in human life. In fact, they all seem to work together in maintaining our vital bodily activities. But any one of us does not need equal amounts of the various vitamins. Requirements differ from relatively small amounts for some chemicals, like Vitamin B₁₂, to substantial amounts of others, like Vitamins C and E. Also, various human beings differ in their demands for

any one vitamin. So, we have an interesting dietary problem of determining how much of each vitamin each one of us needs.

To make the formulation of an adequate diet more confusing, our bodies need various inorganic materials in our food. Naturally, we do not know all of these requirements. But, the elements do include sodium, potassium, calcium, magnesium, iron, iodine, copper, manganese and zinc. Our list of mineral constituents for good nutrition is certain to become longer. Also, optimum proportions of the elements must come to light by experiment. Thus, our demand for things to eat might be bewildering, if these minerals were not widely distributed in natural foods. Still, requirements of different individuals challenges us to engage in extensive study to discover what is essential for us.

Our nutritional problems do not end, when we acquire general knowledge of our bodily needs. For one reason, our foods are not obtained right out of the garden. Picking products early and storing them for considerable time is common practice in the grocery business. By such means, many suppliers of foods seem able to decrease the per cent of valuable nutrients as well as the flavor rather substantially. In addition, the usual procedure for preparing a meal is not designed to preserve the original food value of what we eat. At least, over cooking may be destructive of human nutrients. We cannot just look up the analyses of food materials and program a healthful diet.

Through ill-advised eating habits, our appetites may not appreciate nourishing foods. A surprising number of human beings, who demand sugar-rich foods, seem to consume a hundred pounds of sucrose each year. This over-consumption of sugar usually results in diets that are remarkably out of balance. Also, consumption of alcoholic liquors can impair our diets even more effectually. Good food selecting, cooking and eating practices seem to require complete dedication to our belief in making everything better.

As if the above food problems were not enough, we must contend with additives that are beyond our knowledge. Processors naturally have many excuses for adding various chemicals to food products. So, we have had massive proliferation of chemical food treatment. Many crops need pesticides to increase the yield; prepared foods often require preservatives or they do not keep; fruit allows rougher handling, when the skin is treated to toughen it; colored products may look better, when they are dyed; many foods have artificial flavoring that

adds to the taste; our meat products may contain hormones that made the animal develop more rapidly; many other food materials have sweeteners, extenders or emulsifiers. Thousands of extraneous chemicals may find their way into our food and inspectors can scarcely test for all of them. When some chemicals are found to be suspicious, processors may be allowed to use up their supply before they quit putting them in what we put in our mouths. We obviously have difficulty avoiding these additives, but must make increasing effort to decrease their consumption.

Medical science enters the practical side of our complex food dilemmas by making us run preventive experiments on ourselves. We have the responsibility to learn from available information how to improve our health by improving our diets. We are the ones who must detect our chronic disorders, like: overweight, getting tired easily, poor functioning of body parts, susceptibility to flu and other illnesses. We are the ones who must discard certain foods and adopt certain supplements. At least, our experiments might reject alcohol, sugar and foods that give unfavorable allergic reactions. Then, we must measure any relief of the difficulties that we are trying to correct.

In case our experiments on eliminating things from our diets show insufficient improvement, we must try the supplements. Our first move might be to study the literature on dietary suggestions. When we find any specific vitamin or mineral that might be useful in relieving our difficulty, we should consider a trial. Here, we should consume increasing amounts of our supplement that might help us with our difficulty. These tests must last several months, while we observe the results carefully to select an optimum amount. The maximum amounts of materials that we use might well be within the limits that are known to give side effects. Using such medical procedures, an astonishing number of us have developed considerable advance in our bodily well-being.

Among the spectacular developments of medical science are the special tools that are available for detecting physical troubles. The sophistication of these diagnostic devices is hard to elaborate on. We can even tap the amniotic fluid of a pregnant woman to determine if she will give birth to a child with abnormalities. An accurate determination of what is wrong with us frequently calls for analyses of our blood for valuable materials. So, the number of chemical tests for blood constituents keeps expanding and becoming more quantitative. Some of our

more useful tests serve to identify cancerous tissue. In addition, we can detect undesirable materials that might be present in our bodies. Most medical examinations include X-ray photographs of afflicted parts of limbs or body. Now, we have scanning machines that produce detailed pictures of brain or organs that are barely visible on standard X-ray photographs. Many of our tools allow early detection of a diseased organ and better evaluation of results of treatment.

Our earliest activity of medical science in search of treatment for diseases must have been the quest for pain relievers. Our ancestors were not able to endure such agony calmly and were successful in discovering alkaloids that dulled most physical torment. Then, after centuries of using what we call drugs, we unearthed aspirin as a general pain relieving chemical. Now, all kinds of mixtures of this acetyl salicylic acid are popular treatments for simple discomforts. Naturally, we have developed many other materials to soothe our aches and pains. Still, the search continues for ways to bring greater comfort to our bodies.

In recent decades, our chemical treatments have become more powerful and more capable of protecting our bodies from attack. Our efforts to find safe chemicals that would kill bacteria were successful in the discovery of antibiotics. So, an astonishing number of these body sterilizers became available to assault various infectious organisms. The caution that we must take into consideration is that most of them tend to kill beneficial organisms as well. Further, our ability to build up antibodies to resist viruses has been helped by some chemicals. Other special substances condition blood, so we can overcome arterial restrictions and lower our blood pressure. Since cancer has become one of our most serious diseases, we have found chemicals to help combat it. Certain types of malignancies are controlled by specific poisons to a degree that may make chemical treatments relatively successful. Chemotherapy shows considerable possibilities for success in future applications.

Some treatments of our bodies with hormones display appreciable potential for helping us with various physical problems. Insulin has been a great boon to sufferers from diabetes and with other hormonal substances may complete the relief from this disease. If we suffer from allergies, we can sometimes get some comfort from antihistamines. Estrogen may have more application in controlling the difficulties of menopause, when we manage to decrease its hazards. We can get considerable help

with weight control by using body chemicals under special conditions. Oral contraceptives may become safer, if we find compounds with fewer side reactions. Thus our research on the use of hormones proceeds with constant hope for some step upward.

Special radiation tools are also available for treatment of various diseases. We have used thermal and ultraviolet rays for a long time to relieve various disorders. Then, X-rays and gamma-rays from various sources have been useful for helping to control some types of cancer. Now, pion therapy offers some chance of extending the lives of more cancer patients. In addition, laser beams are sometimes effective in stopping bleeding, joining tissues and stimulating growth of cells. We can expect the number of these treatments to expand at an increasing rate.

By means of surgery, we often remove a foreign or malfunctioning portion of our bodies. Such remedial service may take place to correct almost any part of any system. When an object becomes embedded in an anatomy, we extract the thing; when an appendix or such member is diseased, we take out this unnecessary material; when an ulcer afflicts an organ, we cut out the tissue that is bleeding. Tumors, benign or malignant, receive the most careful elimination of tissues that might lead to reoccurrence. Then, even the simplest operation requires the skillful administration of an anesthetic. We try desperately to increase our skill in every technique of these operations.

One of our interesting branches of surgery is the reconstruction of body parts. We frequently join broken bones by the use of pins, which must be made of suitable material. Then, our joints may deteriorate until the moving surfaces must be replaced. Bypass operations on our circulatory systems seem to have few limitations. We even remake ears and eyes until these sense organs function fairly near to normal. Our new advances in rebuilding surgery seem to occur so frequently that the possibilities are quite exhilarating.

We do not know what the boundaries of surgery might be. People may be waiting right now for some organ, donated after death of donor, to be transplanted in them. This type of operation is very difficult, long and involved. But, some remarkably successful transplants are on record, making this potential of surgery highly attractive. These successes bear witness to the strength of our belief in Problem Solving that drives us upward to better achievement.

CHAPTER 33

STUDIES OF BEHAVIORAL SCIENCES

How well do our studies of mental and emotional development uncover the spirit and strength of Problem-Solving?

Systems of organized knowledge about human behavior are not exact sciences. Human situations are enormously complicated in their specifications. So, human variables are somewhat beyond our control during experiments, human observations are largely subjective and not reproducible and human responses are specifically inconsistent. Still, when we started to understand our own mental and emotional problems as human beings, we began to unveil evidence for our major hope and strength in *Problem-Solving*. Simple rules kept coming to light in the form of a certain probability that a given action would produce a specified result. We could usually find consistent trends in human behavior under conditions that we could define fairly clearly. Without a doubt, our attempts to unearth causative factors in our mental and emotional behavior have resulted in considerable progress. In this magnificent human realm, we have vast opportunities to lift ourselves by our bootstraps through understanding and involvement.

Some Generalities

We will never be able to decide when human beings began to make meaningful observations about their own behavior. But, we must conclude that some psychological principles began to be clear before historical times. Very early, human responses to some stimuli, which avoided magic ideas, were recognizable as somewhat consistent. Gradually, we could identify logical human drives as significant parts of our lives. Even so, we had to

progress into recent centuries to frame meaningful experiments that might test the logic of our inferences about human behavior.

Our early attempts to measure human aptitudes and skills were largely limited to determining knowledge of facts and reactions to stimuli. Then, we carried out enormous classification of test questions so we could group them according to difficulty. Groups of these graded questions soon served as intelligence tests to measure our intellectual capacities. We next became obsessed with giving such tests to all sorts of students to determine their Intelligence Quotients. Quickly pressure developed to discover how much of our test scores was the result of heredity and how much was due to environment. When we found that culture and experience were obviously important factors, we also discovered positive and negative aspects of nutrition and various diseases. So, intelligence became a frustrating combination of an indicator for human possibilities and an excuse for poor performance.

We naturally included the intensity of our desire to accomplish something in our studies of human behavior. In particular, we probed the influence of adjustment and motivation on human achievement. When we tested various kinds of positive and negative reinforcement on human performance, the attractive rewards were really successful. At this point, our main problem may have been finding means for measuring inner personal achievement. Where science prevailed, our inner satisfactions seemed to demand an increase in problem-solving activity. Unfortunately we have a minimum of studies in which those tested received the exciting stimulus of our belief in working on problems.

From our earliest attempts at understanding human behavior, we have had classification of people into personality types. In times past, we have had our four special divisions: sanguine that was active and quick while lacking in permanence, choleric that was easily aroused and strong but irascible, melancholic that was slow and pessimistic and phlegmatic that was slow, weak and stolid. More recently, we have tried to divide everyone into two classes: extrovert and introvert. Here, our grouping represents those of us who are outgoing and spontaneously sociable as extrovert and those of us who are deliberative and governed by our own point of view as introvert. Of course psychologists have realized that no one of us fits exactly into one of these rigid classes. Our personalities are multi-dimensional and require a large number of traits to give any kind of representation.

Besides, our personality traits differ in degree rather than kind. Now, we have charts by the dozens of opposing traits, like calm vs. excitable and cheerful vs. unhappy. With these indicators, we can score any person by making a mark on a line between the two extremes. While evaluating a personality with care, our problem is to estimate a meaningful score on each chart from accurate tests.

All sorts of questionnaires and tests have proved somewhat useful in evaluating human traits. Informal face-to-face interviews are important methods for appraisal. Observing a person's conduct in various situations can give fairly objective information. Asking others about how the person performs helps make the observations semi-quantitative. Still, most of our tests require the person being tested to answer written questions. We may make this include to mark statements true or false, complete sentences, give associated words or carry out speed or fatiguing operations. The most important features of these tests seem to be: preparation of the atmosphere, control of the stress and clarity of the instructions. Grading also needs to be carried out with great care, so that side effects do not make our test results valueless.

For many years professional psychiatrists have been available to help us with our behavioral problems. We have given them the functions of diagnosing our mental and emotional disturbances, determining the extent of our difficulties, prescribing remedial therapy and supervising our restoration to better health. Rules that therapists use in these professional operations are necessarily poorly defined and quite open to refinement. Still, many of us have received an astonishing amount of help from this type of counseling. Fairly often our remedial sessions have the form of group therapy and then the rules may change though the objectives remain the same. When we are in the best of behavioral health, we are able to assume full authority over ourselves. In problem-solving, our lives become our own responsibilities and our objectives become to improve our performance.

Hereditary Influences

Relative effects on our lives of heredity and environment are of special importance in Behavioral Sciences. We are usually similar to one of our parents in facial appearance, body build and color of skin hair and eyes. In addition, we frequently resemble a parent in demeanor, personality and basic skills, at least when these traits have encouragement. But, a large number

of human traits depend on surroundings as well as heredity. Some personality characteristics might not develop at all except under favorable circumstances. In fact, the relative influences of genetics and environment vary greatly from one trait to another. Thus, any transfer of observations about quality from one human trait to another is scarcely justified. So, we have a great deal of difficulty determining the effects of heredity on our lives.

We may be able to carry out better controlled experiments in genetics, if we use lower animals such as rats. Here, our laboratory specimens can be subject to selective breeding, as required by the experiment. Their environment can also be subject to relatively precise control. In one family, we can mate "brightest" rats to "brightest" and "dullest" rats to "dullest" rats and apparently get amazing separation in learning ability. After eight generations, all of the "bright" group may make fewer errors than any rat in the "dull" group, as determined in a maze-learning test. Further results from response tests show that rats with highly emotional characteristics bred with similar specimens had offspring that were more emotional than unemotional rats bred together. In spite of the appearance, the interpretation of these results is not conclusive.

Our rat experiments do not necessarily indicate that human learning and emotional aptitudes are largely genetically controlled. In the first place, we know that we can teach our "dull" rats to make much fewer errors in our maze-test with drastic reinforcement. Also, our reward and punishment treatment can make unemotional rats much more emotional. Such results cast the first doubt on hereditary influences, even if we might not want to use drastic treatments to make human beings learn faster. In the second place, we have evidence that differential genetic structure has greater influence on the behavior of rats than on the performance of human beings. Our mental and emotional learning processes, while linked to heredity, seem strongly influenced by motivation and belief. Thus, our evaluation of hereditary influences on human behavior needs vast numbers of experiments on human beings.

We can scarcely get conclusive indications of controlling genetic influences from family histories. Children with low intelligence quotients are usually brought up in homes by parents with low intelligence quotients; children with high intelligence quotients are frequently raised by parents with high intelligence quotients under highly stimulating conditions. So,

our difficulty in regulating background variables for our histories injects many perplexities. Clinics that work on practical behavior problems find that upsetting difficulties may appear in successive generations. Still, such legacy is not very consistent. Thus, from studies of family histories, our best conclusion might be that many human behavior traits are products of both heredity and environment.

Information about genetic effects on human behavior might conceivably be obtained by studying adopted and foster children. Still, tests are seldom available for the original parents and are available for the children, before they enter their new home, only under tension. This situation means that we must usually just observe changes in intelligence quotients that may take place, because of the intelligence quotients that may take place, because of the intelligence quotients of the new parents. Such observations suggest that genetic factors are important, even though a favorable environment may raise intelligence appreciably. We also have difficulty judging how heredity affects our personality traits by observing children in new homes. Here, comparisons of behavioral tendencies are necessary between large number of parents' true children and their adopted or foster children. In such studies, we usually find close correlation between development of true and adopted children. In fact, we find that personality traits of most of us are substantially influenced by environment. So, our investigations of children in new homes seems to leave us with both heredity and environment as factors in determining how our skills and conduct unfold.

We might imagine that experiments on identical twins would give us some kind of final evaluation of heredity. Their same age and close association might subject them to nearly identical surroundings in one family. Here, the resemblance of the two children makes everyone treat them alike. But, when identical twins grow up in different families, the results on their mental abilities are not clear. After years of separation in comparable homes, twins may display quite similar intelligence quotients. But, when exposed to opposite extremes of cultural environment, our identical genetic specimens may show appreciable intelligence differences. Also, studies of personality traits of separated twins show both similarities and differences in temperament. Our twin studies also point out the extreme importance of surroundings on our personal development.

We might draw the conclusion that, no matter what our

hereditary characteristics might be, we can enrich our talents substantially by improving our environment. Our evidence suggests that training and experience in coping with difficulties may be the best type of improving influence. Through problem-solving, we can charge up our capacities to higher intensities until our abilities become greater.

Childhood Training

At least we know that childhood training is vastly important in determining human behavior. We can acquire an enormous amount of useful attitudes, knowledge and skills at an early age. Apparently, from right after birth every experience is part of our learning process. From then on most of our human qualities and individual attributes become products of our learning from other human beings and our surroundings. Our heredity may account largely for the rate of our mental, physical and emotional learning and the capacity that we have to use the knowledge learned. Still, our development to the limit of our potential is highly dependent on stimulation, inspiration and active experience and most of this must come from our early surroundings.

Obviously these early surroundings that might charge us up to our highest potential for performance must be in our homes. So, the main creators of such stimulating environment are our parents. As most of us have both mother and father, each of which has separate contacts with us we need many charts to plot our parent-child relationships. Thus our final home evaluation has a multi-faceted structure that can be divided into attitudes and controls.

Our most desirable score on parental attitude charts is usually quite clear. Thus, we would hope that the mark for our home on the acceptance-rejection line would be strongly in the acceptance direction. A parent-child relationship is certainly more stimulating when the child is more completely accepted. Whereas rejection can lead to uncontrolled tensions and aggression. Our search along the possessiveness-detachment chart must look for a home where the child is taught increasing responsibility. This expanding accountability must accompany identity as well as a small amount of detachment. Too much possessiveness may create anxieties; too much detachment may develop poor communication. Any improving score along the understanding-indifference axis must move in the direction of better understanding. To have parents grasp the significance of a child

making progress is a powerful aid to training. In the other direction, indifference can spoil the association. Then, probably our most important mark, when grading parents, must be definitely in the chart, where we can indicate a high level of love and an absence of coldness. A high degree of warmth in the home is a potent force in improving our behavior. Any appreciable coldness creates many difficulties.

Our rating homes on the basis of parental control is usually relatively difficult. Still, most parental scores along the autocracy-democracy axis need to move in the democratic direction. As children, we must find someone to listen to us, if we are going to develop rapidly. Our confidence increases as we help make family decisions; our subjection to parental domination promotes lack of respect and aggression. In the discipline chart, we might hope that our parents would have an intermediate score on the relaxation-rigidity line. Lack of discipline can create uncertainties and lack of direction, while stern and rigid treatment usually makes us rebellious. Over on the reward-punishment axis, we certainly want our home removed from any position where punishment is severe. Severe punishment may make us withdraw, while strategic rewards may be instrumental in making us highly adjusted. Then, of tremendous importance in child training is the grade of our home in the cooperation-opposition chart. As children, we need to learn skills by contributing to the learning process while helping parents. We may reach a high charge of vitality through parental cooperation. But, we may feel quite unable to do things, when subject to parental opposition. Thus, in behavioral sciences, our objectives must be to explore every means to determine what controls are most desirable in our homes.

Youth-Parent Relationships

As we have discovered with some vexation, many of our adjustments become more difficult as we develop sexually. All of us have childhood fantasies about our bodies and sex organs. Normally, we acquire enough knowledge during our early years to satisfy our limited curiosity. But, as we begin to mature, our sexual imaginings can give us parental attachments or hostilities that produce peculiar behavior.

As boys, we may expand our original attachments for our mothers. Such unconsciously preferred devotion to our mothers seems to have sexual origins. Our special affection may not be so much an increased return of our mother's love as an innate

jealousy of fathers, who we may regard as rivals. In some instances we may fear our fathers. Then, in a somewhat normal inversion, we may start loving our fathers and mistrusting our mothers. Such circumstantial sexual factors can lead to the need for sublimation of family feelings, before we have satisfactory adjustments.

As girls, we may have more trouble making adjustments to our sexual developments. While observing a male figure, we may discover our lack of external sex organs and begin to feel sexually inferior to boys. Such discovery may give us hostile attitudes toward our mothers and special affection for our fathers and this loving feeling toward our fathers may be unconsciously sexual. Then, our unfriendly feeling toward our mothers may increase, when our menstruation begins. But, our normal inversion usually develops and we acquire a strong affection for our mothers. We must learn to make many sexual adjustments, before we arrive at our mature identity.

During our groping for maturity, we must struggle to escape domination by parents. At least, we must learn how to achieve considerable youthful independence. Naturally, parents must make reasonable rules, hopefully with our agreement. Still, enforcement of these rules should be with great fairness in order to make us feel secure. Excessive parent domination may have a variety of unsatisfactory effects, like lack of confidence and anxieties. We may also become ill-tempered, rebellious and demanding, when our homes are under too rigid control. In fact, our homes actually should convert parental control into self discipline for youth. Such objective is important enough to demand much more intensive investigation.

In later life we acquire personality traits that we can trace to our backgrounds as youth. If our homes have conflicts that lead to distress, anger and fear, we may have these emotions implanted in our automatic responses. If our homes display cooperation that creates delights, love and understanding, we may find these more exciting traits in our personalities. The importance of such discoveries points to the need for special education of parents in the home. This instruction may require family discussions with arguments and experiments. Almost certainly we must get some of our training through organized family projects and adventures. Then, our family influences on our adjustments to working on life's problems can always be improved.

Finding Ourselves

Our most baffling behavior problem may be getting better acquainted with ourselves and our possibilities. We begin to find ourselves when we acquire an increasingly satisfying purpose and self-motivation for our lives. This great discovery drives us from any static passivity and prevents our lives from drifting around without resolution. Reality comes home, when we first realize what our potential might be and then determine to make our big struggle for maximum progress.

Before our identity is distinct to ourselves, we must charge ourselves up more, so we can solve problems better. Like all problem-solvers, we must grow aware of difficulties that we can help remedy. Our curiosity must develop until we have greater wonder about possible improvements. Our conscience must become more sensitive, so we have caring about our present situation and longing for something better. Then, we voluntarily assume more responsibility and search for more understanding. Commitment follows our determination to improve our situations and, when we get started working on our important problems, we quite well find out who we are. We only need the confidence that we acquire from knowledge and experience to reach our clear identity. 308

We can become more prepared to engage in the adventure of self-discovery by training ourselves. Such self-instruction involves a conglomerate of physical, mental and emotional disciplines. On account of their interdependence, these phases of training all work together. We must struggle continuously to achieve better physical condition and mental as well as emotional health play important roles here. Our knowledge and reasoning ability must make progress and physical well-being along with emotional stability are valuable for making these improvements. Then, our increased skill in the emotional realm may be most important and here we need all of the help we can get from physical and mental vigor. Our training must concentrate on building sensitivity, warmth, trust and activation, so we can increase our cooperative ability. We know best who we are, when we learn the expanding art of participation.

We are the ones who must do most of the hard work of finding ourselves. We have the responsibility to provide freedom and identity with which we can exercise our inner strength. We must face life fearlessly, pleasantly and squarely with help from our societies. If our lives acquire anxieties, we are the ones to develop the strength that is necessary to calm our fears. When

we have our disappointments, no one can decrease our stress but ourselves. We must overcome grief with our own efforts and must face frustrations, failures and conflicts with little anger. If we feel like running away, we are the ones who must refuse to withdraw or escape by drinking, smoking or overeating. Each one of us must accept, compensate and sublimate our thoughts and feelings, until we conquer our insecurities. Our discovery of who we are comes automatically while we are busy working on problems.

Physical Therapy 309

Our human behavior may benefit remarkably from many types of physical activity. Play therapy has considerable usefulness, particularly among children. We can usually get favorable response to active games from those who are withdrawn or disturbed. Then, vigorous exercise including running, dancing and swimming can often show therapeutic value even when we are depressed. Yoga for health may be a complete reality. Apparently, our expressing ourselves by physical activity helps remove many of those inner tensions.

Many of our behavioristic disorders become more severe on account of poor nutrition. So, we may be able to relieve some of our mal functioning behavior by simply improving our diets. Among our difficulties that may require diet therapy before we can achieve normal performance are drug addiction, alcoholism, schizophrenia and hyperactivity. We are biochemically different and we must determine for ourselves how to remedy our disorders by improving the food that we eat. But, substantial doses of megavitamins that are high in all Vitamin B complex materials, when used to supplement a low-sugar, high-protein diet, have enabled drug addicts to kick their habit. Also, if we are trying to cure ourselves of alcoholism, we seem to stand a better chance of success by supplementing our low-sugar, high-protein diet with all of the vitamins, particularly biotin. Our highly supplemented low-sugar, high-protein diet, having large amounts of niacin, is known to be helpful in renewing the personality of schizophrenics. Further, we can often decrease the symptoms of hyperactivity in children by adding considerable Vitamin B complex and Vitamin C materials to their food, particularly when these diets contain no preservatives. Possibly this improved-nutrition approach to better human performance has a greater potential than we realize at present.

Mental Reawakening

Our departure from normal mental performance takes so many forms that such illness is hard to determine and harder to describe. We can appreciate the fact that behavioral scientists invented all of those peculiar words to indicate various types of mental disorders. Still, we may have trouble learning that a psychosis is a complete disorientation leading more or less to a lasting derangement. Neurosis does not sound so bad as to be a mental breakdown that creates unstable feelings and empty loneliness. But, our concept of schizophrenia as a divided personality that may end in withdrawal is relatively simple to grasp. We can usually remember that paranoia is a condition of distrustful confusion, in which we have delusions of persecution. Also, we usually recognize hypochondria as an imagined illness producing fatigue, and depression. We realize fairly easily that a phobia is an illogical or hidden fear and a hysteria is a confused disability resulting from some unmanageable anxiety. In addition, we know that an obsession is a compulsion coming from preoccupation with an unreasonable idea. But, we might acquire ulcers before we got acquainted with all of those psychosomatic illnesses. Our main difficulty with recognizing these mental disorders is realizing that they may exist in such various degrees that we may not detect all of them. 310

Once we have detected very serious mental illness, we have the difficult task of determining origins. Causes of these disorders are usually too complicated to present a clear-cut source. Our behavioral scientists generally search for incidents that precipitate the crisis or home conditions that make the trouble develop. Ordinarily, these incidents or conditions are quite obscure, while occasionally distinct episodes come to light. As the most serious illness, a psychosis may have the greatest chance of being hereditary or accidental. Even so, some serious mental disturbance may create a lasting state of insanity. Then, serious neuroses may arise on account of hostility toward a parent or some unresolved hatred of a situation. Excessive demands for decisions, when we are not prepared to exercise discrimination, may cause many of these serious breakdowns.

We may have an easier time locating causes of less serious afflictions. Schizophrenia may arise largely as an escape from unpleasant treatment. Then, many other poor adjustments bring about this divided personality. When our treatment is largely scolding and nagging our escape may be paranoia. Also, inconsistency in our being subject to fault-finding may contribute to

our delusions of persecution. Insecurity resulting from withdrawn love, after we have been over-protected and pampered, may develop into hypochondria. If our anxieties become worse, as they receive special attention, some kind of depression may be approaching. We can acquire any of these difficulties of simple phobias, if we are subject to being shut up in a closed space until we are afraid.

Many types of distrust can produce many types of hidden fears. After our unmanageable fears create confusion, hysteria may enfold us. The "shell shocked" soldier is an example of this confused state. Obsessions may only be habits that have us in their firm grip, so we cannot break loose. When we persist in some action after its irrationality is obvious, excessive compulsion is present. Psychosomatic illnesses may largely be caused by anxieties and tensions. In addition, insecurity and over-dependence can produce many of these physiological ailments. An enormous amount of additional experimental work is necessary to help determine how these disorders attack us.

Our prime objective in behavioral science is to find ways to deal with our mental illnesses and lessen their physical and emotional consequences. Already, we have several types of remedies that we can use with varying effectiveness, when we have adequate training. Sensitivity to mental problems, willingness to solve them and skill in making these contributions are a great help. The demand is enormous in every section of every society. Unfortunately, most of our treatments tend to relieve symptoms and do not go far to cure basic causes of mental difficulties. Our significant and lasting progress on these diseases is almost certain to require our own struggle to solve problems.

Our realization of the background for our difficulties is particularly desirable for initial mental reawakening. We need some awareness of ourselves before we can begin to put our remedies into action. Next, our self-recognition must spread out, so we know what is expected of us in our societies. After this opening up, we must receive motivation to repair our mental damage. Any kind of increased consciousness of self and willingness to assume responsibilities expands our chances for activation.

We appear to gain some release from our mental difficulties through powerful suggestions. Thus, we must search for great ideas that kindle our thought processes. These vigorous stimulations can also penetrate through unusual religious experiences. At least, our hysterical symptoms seem to respond well to

mysterious comforting events that reach into our thought processes. Then, hypnosis seems capable of imparting motives that help us erase the signs of some illnesses. Almost any dramatic stimulating process may help us direct our recovery from mental disabilities.

Just starting to study an interesting intellectual subject can sometimes bring mental activation. Our minds tend to respond to special exercise, so that they are more effective in general thought efforts. We might benefit greatly from making analyses of problems that we put in the back of our minds for subconscious action. Also, we can never tell when such action might lead to practical solutions. Minds need drill and discipline, both conscious and subconscious.

Thought orientation through expression may be an effective way for relieving symptoms of our mental disorders. Such frank discussions might be in a classroom situation, if we could get up the nerve to state the nature of our difficulties. This type of expression stimulates a great deal of thought usually without much conflict. Also, an encounter group controversy often offers useful opportunities for learning other views of our troubles. Here, we might have considerable interpersonal argument and still be able to resolve our differences in an atmosphere of analysis. Our participating in group learning experiences can be quite valuable in directing our mental processes rationally.

Emotional Sublimation

Our distasteful emotional behavior seems to develop as we allow specific sentiments to emerge from our background of feelings. This idea means that our undesirable sensations do not arise mysteriously, while we grow up. But rather, they appear as the result of unpleasant experiences. Thus, hatred may develop in us, when we experience rejection or enslavement that brings out real traumas. Simple obstruction of our natural desires may make us prone to anger, as any painful frustration reaches us. Then, we fear all sorts of things, like: loud noises, pain, strange animals, strange people, high places, dark rooms, etc. because of seeing others become frightened. Many types of strong unreasonable stimuli, including hunger, rough handling, pain or various injurious restraints may cause damaging distress. We may even suffer harmful grief, when we have a major disappointment. Thus, our main behavioral problem may be to submerge these unpleasant feelings, so they are returned to our forgotten

emotional background.

Fortunately, we can cultivate our beautiful emotions by a similar process, if we experience delightfully stimulating feelings. We become tender and loving, when our lives are filled with warmth and affection from others. Such build up of fondness for people may even overcome aversions that we may have felt earlier. If we experience friendliness and good will during our early training, we are more likely to be sympathetic than angry with those who frustrate us. As our lives are exposed to more courageous responses, we may become more confident and less fearsome ourselves. When predictions of disasters come to naught because of heroism, we can replace our anxieties with charming faith and hope. Then, our delightful emotional adjustments usually follow our experience with making pleasurable analyses of our difficulties.

Psychoanalysis

In our sciences, we believe that behavioral problems have rational causes and that our remedial efforts must rely strongly on psychoanalysis. Hopefully, we can trace causes of human maladjustments and provide cures, using established theories of behavior, after learning about the past experiences of ill people who want our help. Our assumptions must be based on the idea that human disorders are the result of faults which we can do something to correct.

Any brief summary of psychoanalysis must focus on quite narrow aspects of our behavioristic concepts and remedial action. Our general principles and specific convictions are so vast that a comprehensive collection becomes a large encyclopedia. Then, behavior situations that enter our speculations are extraordinarily complicated, so that we can be glad that expansion of understanding has been so monumental. Now, the most significant growth in psychoanalysis may be in the realms that overlap into biology and our knowledge of warm human emotions. In these border-line areas, we may find our most useful tools and experiments for testing our theories. In the meantime, progress in application is relatively steady, while psychiatrists develop their own ideas. Our expectations for help from these studies are certain to increase as our problem-solving skills become greater.

Naturally, any psychoanalysis must start with a detailed description of the person being analyzed. We must know the conscious state as an ordered arrangement of body movements,

perceptions, thoughts, and reactions to events. This arrangement comprises much of egos and consists of what we are aware of at any one time. We must also probe the preconscious state as the contents of our minds that can be brought into consciousness by association of ideas. Such condition that retraces thoughts is the seat of our memories and varies greatly with our ability to recall past experiences. Then, our studies must explore the unconscious state, where the largest part of our mental processes may operate. All of these disclosures about any human plight may have great influence on feelings, thoughts and actions.

Our studies of unconscious tensions in human beings are particularly difficult, because our experiences may be illogical and well hidden. Our condition of unawareness is the dwelling place of our id, which represents our primitive character that is guided largely by self-gratification. Another structure that exists largely in the unconscious is the superego. Here, we have our ideas of what is right and wrong, which gives us self-criticism without being aware of it happening. Then, dreams that issue from our unconscious may represent a repressed part of our lives. So, they may provide means for understanding how an unconscious operates, which may give us improved ideas about how human beings develop.

We must consider all of our realistic drives in any analysis of human behavior. In such study, we must remember that our essential needs include food with suitable nourishment and muscular movement to exhibit physical energy. In addition, psychoanalysis recognizes the impulse to preserve and improve ourselves and our species. Such flow of mental and emotional energy directs us toward relieving all sorts of difficulties. Some analysts have concentrated on resolving sexual problems, which demand considerable consideration. But, in a broad sense our studies must probe any interference with every attractive thought and beautiful emotion.

Our examination of behavior must also explore the unfavorable possibilities. Our lives may be directed to unreal phantasies that may lead to introversion, or to childish things that may become fixations or to some unfavorable past that may grow into a regression. Also, our regular activities may be unnaturally restrained or we may have negative instinctive influences, so we develop an urge for destruction. When this feeling flows inward, we may have the impulse to destroy ourselves. If our negative urge flows outward, we may be cruel and aggressive towards

others. As our psychoanalysis gathers information like this in increasing detail, we are better able to apply effective therapy.

Our more useful psychoanalysis must look for any strange dominating influence on our personalities, when we are in trouble. One result of such influence is the inferiority complex, where our self confidence is largely absent. In this case, our home life style may indicate where our lack of confidence originated. If our parents were overindulgent, we may expect everyone to be subservient to us; if our parents were quite punitive, we may be hostile to other people. Another strange outcome of dominance may show up in our sexual lives. We may have a hold over from an oedipus complex, in which a child has great desire for attention from the parent of opposite sex. Males may even have some remnant of a castration complex, where a son is hostile toward his father fearing sexual injury. At least, we must find out if any of these complexes have received overcompensation.

Our studies of behavior must bring to light the degrees of destructiveness of various forces. Our irrational anxieties are wasteful, painful and indicative of sickness. So, this type of negative force tends to damage us. But, relatively rational anxieties may serve as warnings of danger and may stimulate us to protect ourselves. Unreasonable guilt is a block to any mental or emotional progress. Yet, simple realization that we have made errors like everyone else can inspire us to greater progressive efforts. Undesirable forms of aggression usually show up in decided delinquency. Still, under certain circumstances our self-assertive tendencies may be confused with hostility. Thus force factors require careful evaluation to give a reasonable picture of any mental or emotional problem.

Interacting techniques that psychoanalysts must employ require extraordinarily close relationships between analyst and person seeking help. An uncovering of the mental and emotional background for personal behavior problems must call for special trust in the confidant. All necessary responses must develop in a warm credible atmosphere. As analyst we must focus on listening, feeling and understanding; as patient we must unfold our likes, dislikes, humor, anger, frustrations must emerge for examination. Then, eventually analyst and patient must agree on the general nature of the analysis.

If we get a picture of all conflicts that remain in the unconscious we may need to probe our patient's dreams. Here, our assumption would be that dreams continue to discharge our

highly intense and primitive emotions. But, we may be dependent on our patient remembering what took place in the dream and this recall is not always reliable. For more accurate results, we can put the patient to sleep and monitor body characteristics electronically. When we detect a dream occurring, we can interrupt the sleep and ask for an immediate recall. Rapid eye movement, blood pressure change, pulse rate variation and respiratory irregularity are common distinctions for us to observe to detect a dream. Skin conductivity is another measurement that we can use to reveal an emotional discharge. Then, we have the job of interpreting what our observations mean. Our deciding what is going on in the patient's unconscious demands that we comprehend each behavior pattern that each dream suggests.

Our major task as psychoanalysts is to help each patient recover from any disorder. This job is made more difficult by the fact that the corrective action must be taken by the patient. Those of us who have behavior problems have most of the responsibility for accomplishing relief. As analysts, we might explain that personality problems may be compulsions, which are driven in unhealthy directions by apparently conflicting needs. We can direct our patient's attention to the results of our analyses that indicate what requires correction. Here, our aim would be to create for the patient a picture of a vastly improved self. After this, we can encourage the striving for self-fulfillment through self-involvement. Obviously, we are not successful until we check and find that our patient has made progress in behavior.

Prevention For Our Behavioral Difficulties

Behavioral sciences strongly emphasize the importance of early home life that builds skills in avoiding behavior problems. Where our self controls are instilled in a favorable environment, we may acquire few complexes. Then, as our process of learning how to cope with difficulties starts early, we receive initial stability of confidence and mental security. If our homes teach us the excitement of teamwork and cooperation, we may eliminate poor personal adjustments.

We must encourage schools to develop curricula and learning procedures that help prevent behavioral difficulties. At least, our educational system must develop things to do that bring more reality into our experience. This instruction must enable us to turn away from childish or destructive actions and to

embrace something practical and constructive. More self-analysis must be put into our minds, so we can discard irrational forces in our lives. Knowledge and understanding of ourselves can build strength and stability into our behavior.

On a daily basis, we must overpower our frustrations, before we get mentally sick. Most of us need more inner experiences making personal improvements, if we are going to prevent poor behavior. Here, we must encounter life growing deep down inside of us, instead of seeing it going past outside. We may want our lives to have some routines, to avoid being in a turmoil. But, we must never evade responsibilities or retire from activity. If we want to forestall any empty feeling, we had better get busy working on our personal problems.

As a further means of preventing the development of poor behavior, we must become involved in social improvements. Here, all of those steps in problem-solving enter our lives that connect us with society. We must develop considerable concern about what is going on in the world around us. Our knowledge of human organizations must grow, so we know what situations need our immediate help and what possible remedies are worth our support. Then, we must get started helping to make the corrections. Our search for means and our efforts for improvements bring automatic rewards. But, possibly our biggest bonus for working on difficulties is substantial immunity from behavioral disorders.

CHAPTER 34

HYBRID ECONOMICS

How was Problem-Solving responsible for our developing a hybrid economics with such astounding possibilities? 318

From ancient times to the eighteenth century our societies relied largely on goods and services from small farms and household industries. We might have done a small amount of exporting and importing in those times to expand our businesses slightly. But, our economic distribution that occurred in the ancient market place was quite restricted. Then, during the early part of the industrial revolution, our factories began to replace our household industries. Our goods and services became more plentiful quite rapidly; our economic systems became more complicated quite steadily.

One of the important complications in our early expanding industrialized economy was the growing involvement of government. Such increasing assumption of economic responsibility by government created a natural pendulum-like over-swing. So, we had the origin of socialism as an economic ideology, in which government owns and operates our businesses. Under the inspiration of Karl Marx, the idea of government take-over of economies became dynamically revolutionary. Thus, in nineteen seventeen the communist revolution in Russia established the first of a growing group of dictatorial socialist countries. Then, our private enterprise, which had turned into Hybrid Economics, suddenly had an active economic system as a competitor.

In the meantime, our Hybrid Economics retained substantial amount of private enterprise that offered many attractive opportunities to individual initiative. Its greater chance for business creativity has been very useful; its increased economic

flexibility has been quite rewarding. But, our problems with private enterprise, even as found in Hybrid Economics, have offered continuous challenges of great seriousness. Depression, recession, unemployment, inflation and the difference in the incomes of poor and rich tend to confuse our democratic societies. So, our present analysis of economics may help us understand how businesses evolved into such a fascinating mixture under the pressure for improvements.

Private Enterprise Simplified 319

Our general system of private exchange for goods and services may not seem terribly complicated to describe. Many private businesses get organized and produce or manufacture goods of great diversity. Also, many types of services become available as all of us who need to enter this part of the system get jobs and do all kinds of work. In addition, government puts out money in the form of coin or paper money, while banks offer credit money. This money becomes distributed in a way that enables us to receive it as pay for our goods or services that we offer for sale in the market place. With this money, we buy what we need and consume these necessary goods and services.

Any more detailed analysis of our private enterprise does not seem so simple, because our individual functions in the economy are relatively confusing. Many of us may take part in the exchange process by dealing in all three commodities, goods, services and money. Actually, we take what we have for the exchange process to the market place and trade around until we get what we want. So, the function of all real traders in this general economic system is to participate with every commodity that we have to offer.

Our business transaction becomes clearer, when we set up an unreal and aggregated representation of our exchange process. Such aggregation involves concentrating each of the three traded commodities, goods, services and money, into the possession of each of three hypothetical traders. One has all of the goods, another has all of the services and the third has all of the money.

We might require that our idealized business transaction be carried out absolutely fairly. Then, our transaction would consist of an equal division of commodities, in which each trader gives one-third of materials in hand to each of the other two. We must realize that real persons are not represented equally in any of our three hypothetical traders. Still, this concentrating

of each function in one trader type of analysis can help us clear up some of the generalizations that we have used in economics.

When A has all of the goods and B has all of the services, while C has all of the money and we have equal exchange, our price concepts become apparent. One-third of the goods costs one-third of the money available and one-third of the services also costs one-third of this medium of exchange. Then, our law of supply and demand enters our conditional exchange process quite obviously. When A can put more goods on the market, the average price per unit goes down. Also, if B develops more services by having more laborers at his command, the price of the average workers goes down. Even our Keynesian Principle becomes clear, because when C acquires more money the price of goods and services increases automatically. We can see how our disturbing inflation might take place with little collusion.

In analyzing our simplified economy further, we can clarify the spirit of free competition, which we might think makes the private enterprise system important. For this purpose, we might separate each of our hypothetical trades persons, A and B, into a reasonable number of competing individuals entering the market place. Here, we might have our competitors in command of A bringing competing consumer goods to market. Also we might have our competitors in command of B bringing competing services to market. Then, all of the consumers, who are in command of C, have a chance to judge which of the competing items on the market they want to buy.

At this point the free choice begins. Presumably, our free competition results in the most efficient producer, or the one who furnishes the most attractive products, selling the most goods. Also, the least efficient producer, or the one who supplies the least attractive products gets the least business. Likewise, our best services get our best jobs, while our poorest services go unemployed. Thus, our most effective competitors get rich, while our least effective competitors go broke or bankrupt. Substantial difference in economic well-being is expected in our uncontrolled private enterprise and the spirit of free competition supposedly makes this inequality fair.

Some Fundamental Problems

Fundamental problems have plagued private enterprise systems in whatever stage of development into Hybrid Economics. Early in our history, we found that quite a number of gaps in our economy were not filled by private businesses. Many of

these missing parts of an integrated supply of goods and services have cried out for fulfillment. Our city streets and districts demanded organization. We desperately needed necessities brought in to our homes and wastes removed for disposal. Our inter-society communication required nationwide types of services; our transportation called for considerable coordination and order. Then we found that we had to give all of our children at least a primary and secondary education before we could build a stable society.

We have had great need to protect society from shortcomings and shortages in goods and services. Consumers have required continuous protection from hazardous goods and poor quality services. We have had to work hard to control all kinds of discrimination in employment. Our environment has frequently suffered severely from our uninhibited economic practices. Then, when we have run out of raw materials or energy supplies, private enterprise has needed help in planning for the distant future.

We also have had considerable number of problems with business expansion and stabilization. We had enormous amounts of farm land that farmers could not afford to buy. Sometimes foreign competition could supply consumer goods cheaper than our own entrepreneurs. Also, raw materials were often difficult to be made available for manufacturing. Our household utilities could only be made available with considerable cooperation. Even our hospitals did not spring up without public participation. Then, businesses have always called for protection from their own tendency to create monopolies. Every transaction has not necessarily been fairly competitive in the market place. Apparently, our selfishness does not guarantee our honesty.

For well over a century, our money supply was possibly the least stable commodity in our exchange processes. Our government was quite responsible for seeing that a given amount of cash was available for the market place. But, banks and other lending institutions, by either establishing or withdrawing credit money, could either expand or contract our money supply almost indefinitely. Thus, we discovered the hard way that private enterprise could not control our exchange processes automatically, so we could have a sound economy.

Our most agonizing revelation in economics has been that private enterprise is always vulnerable to radical fluctuations in vigor. Particularly, after each major war our prices of goods and services have tended to waver up and down rather drastically

and if credit money faded, our economy would sink into a deep depression. Then we found that our recessions, which are more mild than depressions, have seemed to be natural though frustrating parts of our business cycles. Our depressions and recessions might not have seemed to be such serious problems except that they led to massive unemployment with accompanying social emergencies. Our American economic dream has turned into several nightmares. Now, our battle between inflation and unemployment has become such a critical struggle that we call it stagflation.

We Start To Build Our Hybrid Economics

When we started to work vigorously on economic problems, we developed the spirit of coping with difficulties, which has driven our Hybrid Economics upward. One of our objectives has been an expanding economy with a maximum of responsible private enterprise. Another goal has been strategic government involvement to resolve an increasing number of economic problems. A third aim has been to develop maximum individual and business cooperation, so everyone is involved in the economy. Our fourth endeavor has been to spread our economic cooperation to other countries in the world.

Our Hybrid Economics has held on to a substantial amount of real private enterprise for quite significant reasons. We have had more motivation and stronger drive to do our jobs better, where we have had better identity with our business in the economy and have felt greater responsibility for getting work done. Then, our privately assumed responsibilities promoted greater creativity and expanded independence of action. Thus, our responsible private enterprise has solved their accepted economic problems more effectively and efficiently than government.

We have injected government into our Hybrid Economics, simply because we had no other responsible fill-in participant but our democratic authority. Where considerable investment was necessary, we absolutely had to have government work on problems of economic completeness and stability. Where subsidies started up businesses and gave industry support, we recognized the economic contribution of government. Then, when our private efforts neglected more problems, we were glad to have government enter more strongly into our exchange processes to fill gaps. Still, our conclusion must be that more cooperation between workers, enterprisers, consumers and

government is essential to make our Hybrid Economics work better.

Our list of enterprises that we have surrendered to government is longer than we will mention. Our postal mail service is operated by our federal post office department. We have police and fire protection that is supplied by our local units. Our parks and recreation centers are managed by different levels of government. Our cities and towns have brought water into our homes, occasionally from dozens of miles across the country. Also, these city services have taken sewage from our homes and disposed of it. When we were short of certain conveniences, government set up private monopolies to furnish these accommodations. Thus, we obtained gas and electric power from these public utility companies along with telephone services. Of special value were our variety of health care facilities that were established by cities and states.

Quite early in our history we discovered how to get new private businesses started by government subsidy. Our enormous land giveaway programs were the most widespread means that our authorities used to help private enterprisers. Revolutionary war bonuses were only a start. All frontiersmen pushing west obtained enormous amounts of land by homesteading. By simply clearing the land and living on it, we could become farmers rather cheaply in those days. Then, further west, if we discovered a gold deposit, we had only to stake out and register a claim to make the land and the gold ours. Also, each railroad company received enough land, over and above that necessary for a right-of-way, to add greatly to its assets.

Our government has been astonishingly generous in helping certain private enterprisers. Our personal transportation businesses were among the ones we assisted with critical support. Auto manufacturers could build cars and trucks. But, these vehicles were not useful without roads on which to drive them. So, government built all kinds of streets and highways for our cars to travel on. In addition, we needed gasoline as fuel for these vehicles. So, we gave substantial assistance in exploration, depletion allowances and manufacturing to get our massive petroleum enterprises firmly established. Then, we might have difficulty finding a large business that was not given considerable support by government.

When special situations have threatened the freedom of our business competition, government has stepped in to provide security. For instance, when foreign competitors shipped goods

into our markets for sale at lower prices than our producers could charge, we have imposed protective tariffs. By means of this added charge for foreign goods, we attempted to equalize the framework of our competition. Also, our businesses tended to adopt the practice of one company buying up all of the rival businesses, so the result was a monopoly. But, eventually we enacted anti-trust laws that largely prevented any entrepreneur from acquiring a corner on the market. Then, when government suffered rip-offs from high prices, we introduced the requirement of competitive bidding for contracts. Still, our attempts to decrease the threats to free competition do not mean that we have equal opportunities for all enterprisers.

For many special projects, we have used government contracts to strengthen important industries. As one case in point, we have needed many different kinds of airplanes for military use ever since World War I. So, we have used government contracts as a means for expanding our airplane industry substantially. Actually, these companies must rely heavily on this type of business today. Also, our enormous space programs have functioned largely through government contracts. Many new manufacturing industries have grown quite large from the impetus of these public business arrangements. If we want our own business to have rapid success, we had better get a government contract.

Our essential supervision of private enterprise has made businesses more responsible to humanity and society. We have standards for all sorts of products that help protect our health and safety. Pesticides for crops, preservatives for food, paint for toys and additives to many commodities are subject to close government control. Also, our regulations increasingly demand practices in industry that are safer, so our factory work involves fewer hazards. In addition, wastes from factories and other operations are supposed to meet careful requirements. We limit this pollution of our environment in the attempt to avoid contaminating our precious air, water and soil. Government even requires cooperation from private enterprise, when we establish beaches, parks and national forests, to protect our environment. We can feel the growth of responsibility toward the public in most industries under pressure from Hybrid Economics.

Probably our Hybrid Economics achieved its greatest increase in acceleration, when government took over and extended our basic educational processes. This step did not remove the

responsibility for earliest training of children from the home. But, by making much of our public education compulsory, our elementary preparation for life became quite widespread and our secondary training became fairly common. We will always be able to discover new ways for giving our children basic training. Still, our public schools have performed valuable functions in giving us the opportunity to gain fundamental knowledge, such as reading, writing and arithmetic.

Our efforts to extend our learning through education and research were weak until we realized that we needed teachers and other professional people while industry demanded increased scientific skills. At this point, government established the state university to expand our opportunities for higher learning. Besides their furnishing instruction, these centers of learning have become enormous research institutions with government help. We now realize that our struggle to discover how the Universe works must be highly intensified if we are to survive.

Improvements In Our Economy Continue

In the twentieth century, special action by government enabled labor unions to organize a significant segment of our services. What was originally a loose and powerless work force in our economy has become a relatively compact and potent service component. Now, we can recognize the importance of labor as the third party in our many exchange processes. Fortunately, government has retained some control over our labor unions. These essential service organizations are not necessarily democratic and do not automatically function in the best interest of either labor or our economy.

Eventually, we recognized the desirability of exercising more supervision over our money supply and credit stability. By guaranteeing our bank deposits and restraining these credit businesses, we have made our economy freer from those up and down gyrations. When our government accumulated a substantial debt, our recessions were not as deep as before. Then, our setting up a Security and Exchange Commission to regulate speculation kept our money supply on a sounder basis. Also, we have discovered that we can discourage or encourage the borrowing of money by raising or lowering interest rates. In emergencies, we have resorted to establishing price supports or price ceilings for critical commodities. Our experience suggests that our money supply may require even more direction and

regulation.

Our housing industry was quite slow in making progress over the years, on account of problems involved in financing these investments. Then, our government established the FHA and its program for financing home building. From that moment, our bankers were more willing to talk to us about mortgages. Also, we had a relatively long time to pay off our loan principals and had reasonable interest rates on the unpaid balance. With these advantages, a larger number of us could afford to own homes and our housing industries flourished.

Out on the farm in the early years of the twentieth century life had various disadvantages. We used kerosene lamps for light and wind or hand operated pumps for our water supply. Then, our federal authority initiated the Rural Electrification program and this action brought our switch on energy out to the country. Our electric lights and electric motor pumps expanded to the farm. The full importance of this transformation might be hard to evaluate in our energy crunch. But, at least living in the country became as comfortable as living in the city or more so.

For most of us, to save up money to provide ourselves with retirement income was impossible, because our earnings were spent on immediate necessities. So, to handle part of this dilemma, our government organized Social Security as a retirement income insurance plan. Now, we are forced to save for retirement and our employers are forced to contribute to this retirement fund. As a result, we can look forward to a small basic income after our working days are over. We have taken steps to make this program relatively secure financially, in spite of the inflation.

Neglected Serious Problems Requiring Better Problem-Solving

We must instill our important belief in coping with difficulties better into more of us, so our economy can improve faster. Our need for more knowledge and understanding has been growing at an enormous rate. Thus, our economic attention to problems of education has been increasing much too slowly. Evidence suggests that our preparation for life should start earlier and last much longer. Care of our bodies calls loudly for more skill and determination to achieve better health. We still have great lack of special mental training, which might enable more of us to handle our troubles better. Our emotions tend to be deficient in the warmth that would make our lives more

exhilarating. All of our other problems demand more awareness, greater experience and increased competence. With our astonishing means for communication, we can hope that we will not neglect these difficulties for long.

During our struggle to strengthen our private enterprise economy, we have been unsuccessful in correcting our unequal distribution of income. We still have the few enormously wealthy, the large intermediate income middle class and a substantial proportion of poor people. In fact we have altogether too much unemployment particularly among minority teenagers. Poverty is still an expected outcome of failure in our freely competitive exchange processes and is a major cause of our urban decay. Then, we do not relieve this difficulty very well by just giving the poor money through some handout procedure. Apparently, we must understand our Hybrid Economics better before we can take everyone off of unemployment insurance or welfare and fit all of us into its structure.

We are still relatively helpless in controlling the steady increase in prices and the fluctuating production activity in our economy. Those of us who are retired or are otherwise stuck on a fixed income have considerable difficulty dealing with an escalating cost of living. All workers who are vulnerable to loss of jobs feel the negative impact of plant shut-downs. Clearly, we have not learned how to guide our Hybrid Economics, so our money is spent in the most stabilizing way. This ignorance is not surprising, because inflation and recession are highly complicated perplexities that call for considerable experimental study before we can really understand them.

Our economy has not responded adequately to our energy crisis, which has been creeping up on us for decades. During this time the world demand for energy has escalated at a substantial rate. Besides, we have concentrated our demand on petroleum, while we are rapidly depleting this product over the whole world. Then, the greatest world reserves of oil are in the Middle East, largely in Saudi Arabia. So, we are currently dependent on this area for half of our oil and one-third of all energy. Our practice of using such a dwindling resource with such expanding exploitation is scarcely excusable, no matter what other options we might have.

We have alternatives right down in the ground that are really quite exciting. Our possibilities for increasing natural gas production may be far beyond our present expectations. Nature generates methane at an incredible rate in many production

zones. We have the technology for making coal more useful, if we develop ecological strip mining, collect more fly ash and absorb more sulfur gases from the combustion products. Shale oil and sand tar may become economical substitutes for petroleum, after we learn how to dispose of mineral wastes and refine the organic materials more efficiently. Also, we may soon discover how to clean up our geothermal steam for application in electrical generators.

Many above-ground energy sources have received insufficient study to determine possible means for making them practical. Our use of solar energy has many undeveloped possibilities for limitless application. Now, we can heat recirculating water inside of tubes and convert the sun's rays directly into electrical energy in photovoltaic solar cells. Undoubtedly, we will be able to expand the use of wind for generating electricity or doing mechanical work. Also, our oceans have substantial amounts of energy that we have scarcely touched. And, our organic wastes are valuable resources for natural gas production, which we must exploit much more than at present. Further, we can ferment much of our organic matter to form alcohol for liquid fuels. We certainly do not need to become dependent on nuclear energy, which has unsolved waste and serious accident problems.

Strangely, our Hybrid Economics has been insensitive to the degree of interdependence that we have in our economic world. We may not want to admit the fact, but our different countries really need each other. An astonishing number of food products, energy resources, mineral ores, refined metals and other things, which are necessary to satisfy basic human needs, are poorly distributed around our world. Even in the USA, we must rely more and more on raw materials that we import from other countries. Though many countries are much less self-sufficient, our dependence on others may be critical for twelve or more industrial essentials.

Our variation in interdependence and difference in development have divided world nations four ways on a relative basis. We have our more developed countries with a fair supply of raw materials and energy, so they are somewhat sufficient, MDCSS. Then, other more developed countries have few raw materials and are poorly self-sufficient, MDCPS. In another category, we have less developed countries with abundance of special raw materials or energy resources that are somewhat sufficient, LDCSS. Also, other less developed countries are poorly suf-

ficient, LDCPS. In each of the different divisions, the economic functions and trading problems may have considerable similarity. Thus our classification may help us determine what direction various nations should develop to create better world economic stability.

Our Hybrid Economics must adopt the economic objective of gradually equalizing the quality of life in all countries. This goal means that more-developed countries must help less-developed people raise their standard of living. Our economic activity must involve a great deal more cooperation between countries than we have now. Quite probably, our plans will need to focus on making international trade do most of our leveling work. But, education may be the most important international exchange commodity. If we use our four-way division of nations in making our analysis, we may see our problems more clearly.

We can describe the nature of our increased cooperation, using a few sample nations. Most of the exported economic help must come from MDCSS countries like USA and Canada. These nations might contribute education, food, raw materials and possibly one-third of their energy. MDCPS countries like Japan, West Germany and United Kingdom might supply education, technology, capital and manufactured goods. But, they must receive considerable food, raw materials and energy. Then, some of our important assistance must go to LDCSS countries like Saudi Arabia, Mexico and Venezuela, who primarily need education, training, technology and raw materials. As they have considerable energy, they should be encouraged to become manufacturers of goods. But, the majority of our international aid must go to LDCPS countries like India, Turkey and Egypt, who need education and all kinds of additional help. We must take in the poorer countries to the world of importing, manufacturing and exporting. Any pretense of self-sufficiency may disappear before very long and all of us may need to participate in the vast exchange of goods and services. Then, we may even need to activate the United Nations to give direction to our multiple economic functions and to stabilize our chaotic monetary systems.

Our concentrating on preparation for the next war is clearly our most serious economic weakness, while we are striving for a cooperative world. Actually, such military focus is probably our greatest extravagance, if we are trying to impress the world with our economic competence. Then, our absorption in preparing for hostilities may be our poorest safeguard, when we are

aiming to protect ourselves from counter ideologies. Any substantial use of military force can have devastating social consequences. Thus, in our war efforts we are getting ready for operations that must never happen, instead of improving the strength of Hybrid Economics.

Economically we cannot afford the waste of materials and manpower of an arms race. Only a very small per cent of our war products ever appears in manufacturer's or consumer's goods; only a minor portion of our military effort ever shows up as manufacturer's or consumer's services. Clearly, this distortion in our economic activities throws our exchange processes out-of-balance. We only have to recognize the severe depressions or recessions after many past wars to become convinced of this perversion. Then, we need those competent workers, who spend their time in the arms race, to work on our peace-time problems. Also, our problems cry for money that we spend on the arms race. Of this demand we have striking evidence from Japan, where they have developed a remarkably strong economy largely because they waste little of their economic activity on war production. For certain, our economy has enormous requirements of stronger and more effective peace efforts. 330

Our government agencies that provide essential services and regulation for private enterprise must be made increasingly effective and efficient. Under many circumstances our agencies might legitimately supplement each other, but they should have lessening authority that overlaps. We might want one bureau to check and balance another to prevent unscrupulous acts. Still, our intertwining powers must decrease the mass of paper work and confusion that is current. We must try harder to improve office organizations, so that management becomes less top-heavy. Our aim should concentrate on obtaining harder work, faster action and better results. We must always struggle forward to greater efficiency in function of government as well as business.

Eighteen Economic Systems

What *Problem-Solving* has done to set-up our present Hybrid Economics may be clearer from a multiple private enterprise exchange consideration. Our analysis indicates that we have at least eighteen different exchange processes going at the same time. Thus, we can visualize at least eighteen different idealized economic systems in operation. Each system has a different assortment of traders, A with our goods, B with our services and

C with our money. After we analyze our complicated Hybrid Economics from this picture, we may be able to understand some problems better and suggest more useful solutions.

We divide our Hybrid Economics into eighteen economic systems quite arbitrarily. Almost anyone could suggest a few more. But, these multiple divisions outline the extraordinary confusion that confronts our exchange processes. We must think in terms of spending some of our money in each system, because the money comes essentially from the general public. If government furnishes the exchange money, it comes from our taxes. If banks loan the money, it comes from our savings. If industry contributes the money as capital investments, it comes from what we paid for industry's products. If some foundation donates the money, it comes from investments of money extracted from what we paid for consumer goods. Thus, our arrangement of these economic systems somewhat according to importance can help us program our decisions as to where we should spend our money.

Our first economic system exchanges learning, instruction and money in our educational processes. In this assortment of three traders, A has book knowledge, basic skills and special abilities, B includes the teachers in schools and colleges along with others that communicate this training and C consists essentially of students who receive the education. But, our students are largely subsidized. So, for C the money comes almost completely from government, private gifts and loans. This practice must be accepted as completely justified, as all of us have had our turn at receiving such subsidy. Also, we do not need to wonder why this system comes first on the list, because training and understanding are extremely basic in all other exchanges. We might note that this economic system is excellent for taking-up slack in employment, as it is currently minimal and must expand greatly for all of us.

In our second economic system, we research for better understanding and better ideas about all sorts of problems. Here, our set of traders is slightly obscure, because A represents hidden knowledge and understanding of our Universe, B searches for information and carries out scientific experiments and C has need for enlightenment and is willing to pay for the scientific work. Again, C is heavily subsidized by government, universities, businesses and foundations. But, we agree to making our contributions to this system, as new understanding of the Universe adds to our skill in working on difficulties. Then, scientific

research frequently discovers an exciting type of information that can generate a new kind of business.

Our third system in our economy includes all searches for natural resources and efforts to discover what materials our earth can provide. In this exploration system A represents a hypothetical trader who possesses the secrets of where our minerals are buried and where our oil can be found, B explores for these natural resources and C consists of businesses and all of us who need information about reserves of materials and energy and will put up the money for the exploration. Many industries must be active in these searching operations to stay in business. Then, we must encourage government to finance explorations for natural resources in order to retard deterioration of our economic self-sufficiency. We have an expanding stake in increased utilization of what our earth provides. 332

In our fourth system of exchange processes, we tool-up for expansion in our manufacturing. Here, our creativity and inventiveness must be put into action. Thus, A represents all sorts of practical undiscovered ideas about how to construct things better, B consists of inventors, engineers and developers who put these ideas into practice and C is largely businesses that make their operations more efficient by use of the inventions. For this exchange of inventions, much of the financing comes from businesses. Still, some of the funding may be through banks and some of this money may even come from government. At least, such business expansion makes industries more diverse and gives the market more products.

Our fifth exchange process, which supplies us with energy, is quite critical for our economic stability. Our demand for energy has concentrated on oil and has escalated to the degree that we are dependent on foreign sources for much of our supply. At any rate, in this exchange A personifies the crude energy materials and the final fuels in our world, B consists of the employees of companies that produce and refine our energy products and C is all of us and all industries that buy the products. Everyone who uses light, heat, cold or transportation and power needs energy and must put up the money for the exchange. Any international emergency makes our fifth exchange process highly vulnerable in any country with undeveloped energy conditions.

Producing and processing is our sixth economic system, which creates consumer goods for our wholesale outlets. This exchange process is one of our most important economic opera-

tions. We can even include our raising food on farms in this system. Then, naturally our manufacturing consumer goods out of raw materials is an equally valuable function. Here, A stands for industrial plants and raw materials for fabrication as well as farms and seeds for planting crops, B is industrial and agricultural labor as well as management to direct operations, and C is the composite of companies that own these businesses and get their money from budgeted expenses or bank loans. As these operations produce our basic necessities, we can hope that they work with minimum difficulties.

We have our seventh economic exchange process cover every transaction related to the distribution of goods and services. Thus, it includes wholesaling, shipping, advertising and various forms of communicating. While our three traders might appear to be largely private enterprisers, government plays a significant role. Our trains came into existence through massive government subsidies and our merchant marine had similar support. Then, our government might have been even more helpful to car, truck and bus transportation by building highways, roads and streets. Also, it created the modern airplane industry for air shipments. In addition, our federal authority owns and operates our postal service, while it controls and supervises our radio and television channels. So, A personifies a wide variety of means for message and commodity distribution, B includes all kinds of services that are useful in transportation and C takes in everyone who must ship goods or send messages. Quite obviously, we must distribute goods and information extensively. Consequently, our shipping and communicating exchange is an extremely valuable part of our Hybrid Economy. 333

As a vital classic, our eighth economic system consists of our market-place exchange of consumer goods and services. This exchange gives us those commodities that we need on a daily basis and that we pay for promptly when we buy them. Usually, we just go down to a store and make our purchases. But, in the case of water, we just open a faucet and out comes our precious liquid supplied by the government. Also, our public utilities will give us electric power simply at the throw of a switch and gas at the turn of a valve. Thus, A stands for food, water, energy, clothing, drugs and all things that we buy for cash, B includes employees of stores and workers that provide services around our homes and C includes all consumers who have money from regular earnings, retirement pay, welfare or unemployment compensation. On account of our generosity toward the poor,

we all participate in this system. But, one enormous problem that persists in Hybrid Economics is the need to make this participation more nearly equal.

Our ninth economic system exchanges goods and services for which payments are spread out over a long period of time. In order to carry out this transfer, we must borrow money for our purchases and actually increase the supply of this exchange medium. The result is A represents people with homes, land, cars, etc. for sale, B is the sales and real estate agents who must receive money regularly, even if it is borrowed, and C stands for banks, building and loan institutions or credit unions who provide the money for the consumer. These expensive products are quite essential articles for enjoyment in our advanced society. So, consumers with credit are quite capable of expanding our money supply considerably, thus contributing to our inflation.

Our tenth economic system, which consists of utilizing wastes, is poorly developed but substantial in potential. We desperately need to protect ourselves from toxic wastes. Also, we have a strong responsibility to make organic wastes available for energy and to recycle mineral wastes in short supply. In this exchange, A stands for the massive wastes that are discarded from industries, stores and homes, B consists of workers who dispose of trash or recover values from this material and C comes largely from government that gets rid of the junk and from business expense. We may still think about pollution control as being antagonistic to jobs, when its potential to create jobs seems enormous. At least, we must promptly make life safer and rapidly maximize the recovery of values from what we throw away.

We have an important eleventh economic system that handles our personal emergency requirements, which arise without anticipation. We are all vulnerable to emotional, mental and physical health difficulties. Also, legal services are commercial products that seem necessary only under peculiar circumstances. But, these personal needs do require attention in crises. Here, A personifies physical, mental or emotional knowledge that can make us feel better or legal information to help us with these troubles, B includes doctors, psychiatrists, ministers and lawyers and C has money from our personal income or from government with which we can purchase these services. Usually, when we need this type of help, we must get it from highly trained professionals and we must have it promptly.

In our twelfth economic system we get public services from firemen, police, courts, streets, highways and libraries. These useful parts of our lives are usually available automatically. And, A represents the help that we get in this important exchange, B includes the public servants who render the services and C is our government that handles the public money. Quite generally, we take this system for granted.

Through our thirteenth economic system we get prepared for costly emergencies by taking out insurance. In this transaction, we can acquire a variety of protections for our well being, including Social Security income for our retirement years. Here, A stands for the help that we secure when serious difficulties afflict us or we retire, B consists of insurance companies and all agencies that provide this protection, while C includes all of us who pay for insurance from our personal earnings, as well as employers and government. We have had considerable expansion of this effort toward financial stability, as we have sought to make our economic future safer.

Our fourteenth economic system is responsible for culture and recreational activities. Various types of entertainment and art, including sports, music, drama and travel are much in demand in most societies. When we patronize this system, A represents the entertainment and art exhibits, B comprises the performers who create the entertainment and art exhibits and C pays to enjoy these cultural and recreational functions. We have vast possibilities for extending this economic system, because recreation, entertainment and art have considerable value in our inner lives. Actually, our sense of belonging to a vital society depends on our participation in this exchange.

Our banking practices constitute a complicated fifteenth economic system. Here, we take our income checks on any bank, which we get by giving services or providing goods, down to our personal banks. We deposit this promise-to-pay money in our checking or savings accounts and automatically we get credit for the amount of our deposits. The banks, as exchanger B, transfer the money as a commodity from C to A through other banks. Also, while holding the money for A in checking accounts, banks serve to transfer it again to some other exchange process. Actually, all of us put most of our money in exchange processes through banks by means of checks or credit cards. All of our banks, as exchanger B, are willing to give most of this checking service free, because they retain much of our credit money. So, they can lend it out to other C exchangers at

substantial interest. Borrowers can be almost anyone, including persons, businesses, government and even other banks. The amount borrowed can be a substantial percent of the money in circulation. Thus, our fifteenth economic system has remarkable ability to create money for all of the other exchange processes.

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We take part in our sixteenth economic system, when we buy a commodity because we think it will bring a higher price when we sell it. The more money and credit that we have at our command the more strongly we venture into this exchange process. But, such speculation may provide credit for many economic exchanges related to business. So, in our investment exchange A represents stocks, bonds, buildings, land, machinery or anything that might become increasingly valuable, B includes agents and brokers that carry-out our purchases, while C comprises those of us who indulge in this speculation process. We know from our basic exchange principle that, if many of us rush out with more money and buy commodities, the price will increase. In this era of inflation more of us naturally become speculators.

World unrest and our fear of enemies generates a seventeenth economic system to build up our national defense. We want the image of great power and we certainly do not want our enemies to attack us. Thus, we have this exchange system in which A stands for all of those munitions, like guns, tanks, bombs, planes, missiles, warships and submarines, B consists of employees of munition makers and C is the government that pays the bills with our money, even when it borrows the money, so we pay the bills plus interest. In a reasonably cooperative world, our vast goods, services and money that we expend for national defense would serve little purpose except as a big stick to be shaken at some non-cooperator.

Finally, we can bring up war as a possible eighteenth economic system, as political, ideological and economic nationalisms tend to destroy cooperation. Every few decades, this violent exchange process descends upon us and rapidly disrupts all other systems. Occasionally, we have someone around who suggests that we need a war to solve our economic problems. But, a majority opinion would certainly maintain that war makes all economic difficulties worse, even unemployment. In this system, A is the massive death, injury and destructive forces that can erupt in the next nuclear conflict, B consists of soldiers, sailors, marines and airforce personnel that do the

destroying and C is government that pays the bills with our taxes. We are certain to discover that our fighting from a group of fortresses will be a dreadful experience, if another world war breaks out. We may never learn how to balance our first sixteen economic systems until war is eliminated. Then, our multiple worries about "after the next war" must include doubts about whether we will destroy a mammoth amount of earth's natural resources, whether earth will be a hospitable place for human beings to live and whether any human beings will be alive at that time.

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With our eighteen or more interacting economic systems our Hybrid Economics is set-up to make progress with our basic problems. A certain amount of special education and training is possible for an expanding group of us, if we are willing to work for it. Knowledge and understanding of our Universe is proliferating at a reasonable rate; communication is becoming relatively extensive. Obviously, we have increasing numbers of houses per family, expanding recreational facilities and growing numbers of conveniences and gadgets to operate. We are becoming more certain to be treated fairly in the market place, where we buy most of our commodities. Extensive travel is possible in cars, boats, planes, trains, etc. Also, we have increasing opportunities to participate in cultural activities. Actually our integration into the whole world proceeds at a pace, so we can have a growing measure of friendly economic interaction, except for energy. Not too many of our economic situations appear to be regressive. Apparently we are beginning to learn how to operate our complicated exchange processes, so that general economic stability should be possible.

Hybrid Economic Systems Require Government

Our predominantly private enterprise economy calls for government attention to many organizations of business. As an example, we have our corporate structure that we set up by government to protect management and to allow large numbers of people to become owners of stock. All of these organizations must be examined on occasion to determine that they have not become monopolies. Under various circumstances, we must check on businesses to insure that they are legitimate. Also, we must make certain that our enterprises use affirmative action in their hiring.

Private manufacturing plants and practices require government supervision for various ecological reasons. Cities must have

considerable responsibility for the location of plants and other facilities to isolate noises and to insure against special hazards. Also, our authorities must determine that all industries measure-up to safety requirements inside of plants. We must restrict pollution of air, water and ground with chemicals. Then, means for shipping access must be provided to our production units, while we demand relief for our urban messes and protection for our rural demolition. So, our government can be quite helpful to the management of our manufacturing systems, without participating significantly in their transactions.

Where obviously needed, government has certain control over how some private companies do business. Marketing policies are sometimes subject to influence by agencies, particularly when the company does business with government. Then, we provide price supports for substantial numbers of industries and price limitations for others. Our Federal Reserve System determines prime rates for interest on borrowed money that influences business expansion. Certain purchase and loan contracts come under government scrutiny. Also, investments often require inspection for government approval, when they are related to the stock market or company annuity plans. Then, many private businesses still need subsidies over and above price supports. Gaps in business, like energy development or waste utilization, might be filled if government gave additional help to those economic systems where it is needed.

We have numerous labor unions whose organizations and practices require considerable supervision and direction. Government must prescribe rules for setting up the structure of the unions. Then, the authority of these organizations is prescribed by laws that make them somewhat democratic. If unions get much more popular, government will probably need to give them more oversight. For certain, we need agencies to inspect union retirement funds. Quite frequently, agreements between business and labor unions benefit greatly from government assisting in the negotiations.

Our experience suggests that products and services only meet acceptable standards of quality, when government sets up mandatory rules. Our weights and measures must be made with accurate instruments; our consumer products need to be labeled correctly; any undesirable impurities must be identified and specified or eliminated. But, these rules require considerable government inspection, before we can count on our consumer commodities being acceptable. Our personal services are usually

more reliable, when the work is done by a skillful person who has a government license. In fact, many jobs can only be done legally by a person with a license. Also, many of our services are largely guaranteed because of government requirements.

When we estimate how much government enters directly into our eighteen economic systems, we get the message of how far hybridization has progressed. Our appraisal must necessarily be quite rough, because we cannot determine with accuracy the amount of money that enters our systems from various sources. But, we can use low, intermediate and high ratings with some significance.

Our judgment must place government high in its contribution to our educational economic system, with its public schools, colleges and universities. Then, government must be high in our research economic system, low in our discovery system, intermediate in our energy system and very low in our tooling up and production systems. Naturally, our regulations are intermediate in the communication system, low to intermediate in the commodity exchange system and high in the waste system. The level of governmental action may be low to intermediate in the personal emergency service system, high in the special service system, while intermediate in the insurance and culture systems. We can hope that our supervision will increase in the borrowing and lending as well as the speculating system. Then, government will always be very highly involved in the defense and war systems.

Our Hybrid Economics has created what we can call our public-sector to supplement our private sector and to be every bit as important. Education may even demand a higher priority than discovery, because we may need to learn before we can detect new ideas. Research is as valuable as tooling-up, because understanding usually comes in advance of effective action. Energy is almost on a level with production, due to the fact that making things efficiently demands energy. Consumption of goods and services by those on welfare and unemployment insurance elevates our general economy as much as similar action by those on charity.

The usefulness of our public sector is quite complete in many systems. Waste utilization may easily become as important as culture or insurance for our survival. Special services of police, firemen and courts must be as useful as doctors, lawyers and psychiatrists. At times, national defense can become more beneficial than speculation. Thus, substantial participation of

government in our Hybrid Economics has become absolutely indispensable. But, the amount of government participation that we need depends largely on the amount of Problem-Solving that we can inject into our private sector.

Our public sector must certainly keep increasingly active in stimulating the marketing of education, food, water, housing, energy, health care and materials in short supply. We must never forget that government has been a powerful economic force in the start and expansion of businesses. Thus, we must see that our public sector does not just try to find out how private enterprise is progressing in the invigoration of our critical economic systems. Instead, we must insure that government keeps establishing new businesses that will increase the availability and improve the quality of our highly essential commodities.

Our stimulation of critical economic systems requires that we create highly competitive alternatives. We must experiment with smaller student classes that give some individual instruction in our schools. Our efforts to improve the quality and quantity of human food must generate better agricultural and food-handling practices. We must attempt to develop more fertile soils, more harmless pesticides and more innocuous preservatives for food. Our water must be made better in quality and quantity for both agriculture and human consumption. To ease the housing shortage, we must bring industries into prominence that will make prefabricated and insulated dwellings that are simple to assemble. In the realm of energy, our government must focus on promoting businesses that will develop renewable sources. We must assume that our non-renewable energy sources will sooner or later be inadequate. Then, as a start on national health care, we might offer cheap health insurance to all non-smokers, non-alcoholic-liquor-drinkers and non-habitual-drug users.

Supervision For Government

As the participation of government in our Hybrid Economics is so valuable, we need effective supervision of our public sector. Government does not automatically carry out all of the action that is essential for a stable economy. In fact these authorities may adopt measures that are quite detrimental to improvement in our business transactions. We, the citizens who vote, must become educated so we can understand our Hybrid Economics.

We must attempt to elect officials who understand our Hybrid Economics and are willing to implement necessary ac-

tion. Also, we must become experienced so we can make rational decisions about priorities for action in our public sector, how to control inflation and how to regulate taxation. In general, voters seem to be relatively ignorant of our multiple economic systems and consequently are easily led astray by professionals who become obsessed by economic myths. In addition, we have considerable difficulty recognizing candidates for public office who might carry-out required government participation in the whole economy.

Even if we become highly informed, understanding and well intentioned, we may be helpless in our individual efforts. Strong influence on government is practically impossible, unless we become partners in an active and effective lobbying organization. Our political influence increases as some higher power of the numbers in our group. Then, if our organization is made up of problem solvers, who are trying to make Hybrid Economics work better, our principal objective might well be to prevent special interest groups from purchasing our officials by making large contributions. We must make every effort to see that government is exposed to much less corruption.

Our responsibility for supervising our economy keeps growing. Thus, our group pressures must be placed on many important objectives, like increased efficiency of government agencies, better priorities for the public sector, more cooperation with businesses developing critical goods and services and better world cooperation. Also, we must promote better strategies for handling our large federal government debt. We might even advocate paying off some of this principal that we owe during times of prosperity and allowing it to expand during recession. Interest on this debt is a substantial part of expenditures that go into our borrowing and lending economic system.

Inflation Built Into Our Hybrid Economics

While Hybrid Economics has patched-up many gaps in private enterprise and has provided business with some necessary supervision, it has not insured market stability. Here, one of our most confusing economic problems is when prices of critical goods and services increase at rates that create hardship for the majority of consumers. We might imagine from our simple picture of our exchange processes that we could reach a measure of constancy in our price structure. But, now we realize that we have many pressures which make inflation quite disturbing even in Hybrid Economics. Any pressure that decreases the amount

of our services or increases their monetary value, any action that decreases the amount of our goods or increases their price and any borrowing that increases the amount of money in circulation or decreases its value leads to inflation. Then, when our price increases touch some of our critical systems, they spread throughout the other transactions.

Numerous ways that inflation is built in to our general economy relate to the natural rise in the price of services. We all want increases in wages and salaries for reasons that are too numerous to mention. Actually, many of us are underpaid, while attractive consumer goods are waiting for us to get more affluent, so we can purchase them. We frequently acquire greater skills and understanding and we want recompense. Our lives often become more complicated, so we can anticipate higher costs for our needs. Then, one means for achieving recognition is to receive a greater income. Also, our labor unions promise us higher standards of living and better working conditions that include shorter working hours. In addition, our society has become obsessed with the use of our courts to make services more expensive. We love to sue our doctors, dentists and car repair shops for providing poor service and to obtain large sums of money. So, the price of services goes up as the cost of insurance increases. We increase the cost of our living easily by trying to squeeze all of the money we can get out of our economy. We do not really seem worried about unemployment.

Spontaneous factors contributing to our inflation include the natural expanding cost of producing goods. As we are highly dependent on foreign energy sources, all of our manufacturing and distribution of goods must absorb any increase in the price of oil charged by OPEC countries. As this point in time, we can expect this expense item to expand quite steadily until we become energy self-sufficient. Then, more and more of our raw materials are imported and we must expect the price of articles that are made from them to advance. Also, our weather that slows up production or increases the demand for products has a decided tendency to make prices rise. As we are quite aware, product cost increases are just passed on to the consumer.

Still, our most frustrating cause of inflation may be our increase in the amount of money available for various economic systems. Our banks want to loan lots of money, even more than they have in the ledger. So, they engage in all kinds of business deals and investments. Millionaires will borrow an astonishing

amount of money with the idea of expanding their wealth through speculation. Our businesses frequently need expansion beyond their capitalization. Then, all of us who buy houses or other expensive property must create money with our mortgages. Also, our federal government borrows an enormous amount of money to make up deficits in budgets. Here, a percent of this monetary expansion enters the consumer economic system as welfare and food stamps. So, all of these increases in the supply of money make any control of the prices of goods and services quite difficult.

Restraining Inflation As A Cooperative Venture

Our inflation is an enormous puzzle that we must contend with strategically. We have discovered from sad experience that its excessive rate works great hardships on many people. The cost of their critical necessities just get out of reach. Also, these high increases in prices frustrate the development of new industries. By expanding the amount of money that is needed for initial investment to a high degree, we have great difficulty in determining if and when new products and new energy sources are economical. Still, inflation probably cannot be eliminated without creating an unsatisfactory depression. Deflation can precipitate vicious selling waves. Our speculators know how to accelerate both price decreases and our inflation. Thus, our Hybrid Economics has several critical requirements. We need a labor force that is greater in numbers on the basis of percent of the population, better trained, more productive and more completely employed. Our services can become better and cheaper per amount delivered, if our workers have more knowledge, understanding and basic skills. The productivity of our employed must be built up by greater use of more efficient tools and machinery. Thus, mass production methods must be expanded as long as all workers are employed. Then, our workers must be willing to work for quite restrained increases in wages and salaries. Any effective control of inflation may require our willingness to work hard without demanding that our incomes escalate. So, we may need to rely on considerable volunteerism in order to keep consumer services from getting too costly. Strategically, if we become unemployed, we must go back to school and learn greater skills.

Part of our efforts to restrain our inflation must attempt to slow the rate of increase in cost of producing consumer goods, in a preceeding economic system. Our businesses are not going

to sell goods at a loss for long. Thus, our biggest production expense item, which is the cost of services that are needed to manufacture and bring goods to the market, must be restrained. All production outlays for operating labor and providing machinery naturally appears in the price. Also, cost of materials that are used in making the goods requires as much limitation as possible. In these expense items, we must struggle to keep the price of energy from increasing rapidly. All of our production operations consume energy, the price of which is largely controlled by OPEC countries, who have little competition. Then, a helpful practice would be for industry to make our goods more useful and durable, as well as less consuming of energy. In addition, our government might help control inflation by various means that would lower costs of producing operations and decrease interest rates on loans for business expansion. Also, we might need to have our businesses accept lower profits after investment in improvements and growth. 344

As we struggle to slow down inflation, we must try to control the money supply in most segments of most economic systems. Our special exceptions include the exchange processes for education, food, water, housing, energy, health care and materials in short supply. In fact, for these critical commodities we must make more money and relatively inexpensive money available for development work and consumer use. Businesses that are expanding production of our critical commodities must be encouraged to invest capital for these projects and must be allowed to borrow at low interest rates. We certainly need to encourage industries to develop renewable energy sources. Then, consumers must have large enough incomes to buy these critical commodities, even if they must borrow the money to buy the expensive items. Also, they must be permitted to do this at low interest rates. For nearly all other exchanges, particularly for speculation, we must maintain a tighter money supply at higher interest rates. Our main money supply must not be controlled by the whim of large banks and millionaires. After all, government has the constitutional responsibility to regulate our currency in general circulation.

Our confusing money problems indicate the need for several strategies that we are adopting. Government seems practically to invade the banking business for critical commodities. We get more deeply involved in public education; our food stamp program keeps down starvation; social security partially insures our elderly against want; water supplies have government's

increasing attention; federal authorities are working harder on financing housing; new energy sources are beginning to receive considerable government support; our health care programs are almost certain to expand on a national basis. Then, our federal reserve bank has raised interest rates on banking loans, which might restrict non-critical commodity expansion of money. As consumers, we seem to be trying to save money and, in spite of some tax revolts, we seem to support government action to slow down inflation. We just need to demand that this action be increased and better coordinated.

We may not be able to restrain our inflation satisfactorily until we curtail expenditures for military preparedness. In our military economic system, we borrow increasing amounts of money and pay it out to special consumers, who are largely non-productive in making things for civilian consumption. Our defense practices are extremely wasteful, because our extensive work on preparedness and the enormous machines that we build in the process provide few goods or services that ever reach the consumer.

Any suggestion that airplanes, oil refining, computer technology and nuclear power are simply products of military research is an attempt to cover up the magnitude of waste in the arms race. Actually these developments that have been adapted to peace time applications have originally cost us a small percent of our total military budgets. Then, our useful war initiated technologies were bound to arrive, even though we gave them little help with defense spending. Subsequently, we have had to spend a substantial amount of non-military development money to make these ideas practical for peace time use.

Inflationary effects of our increased defense spending and decreased goods and services for consumers will be substantial, as long as our military budget is such a large percent of our gross national product. Definitely, our inflation control problem demands that we create better relations with enemies, so we can stop the arms race.

Fair Taxation One Key To Improving Hybrid Economics

As our Hybrid Economics requires significant help from government, we must pay taxes to provide for this support. Here we are ordinarily willing to transfer funds from our consumer transactions to public participation and this reasonable consent indicates a significant increase in our spirit of problem-solving. Naturally, most of us complain about our taxes. But,

we are really lowering our level of selfishness, on which we usually base a pure grade of private enterprise. At the same time, we are definitely elevating our level of cooperation, which makes our composite economy much more stable. This growth of collaboration in our society has built considerable unifying strength that we must expand considerably.

Taxation has some basic complications. Our willing cooperation requires understanding of need for public assistance and confidence that our tax money will be used wisely, effectively and fairly. Also, our taxation always confronts questions about how government will extract our money from us and how much each of us must contribute. The answers must be decided by our responsibility for supporting government and government's responsibility for participating effectively in various economic systems. We can always hope for cooperation in stimulating new essential businesses and controlling inflation.

Our policies for taxation have long included the idea that the amount of money collected must be a percent of some value attached to our possessions. Now, with the introduction of income tax, we have accepted the idea that tax rates might well be graduated. In this case, the percent of our taxable incomes that is levied by government increases as our taxable incomes become greater. This modified philosophy is based on the rationality that people with greater wealth have greater responsibility for stabilizing the over all economy.

Our graduated tax rate idea seems headed for considerable expansion. Such differential money extraction process can have some beneficial effect of decreasing the inequities in personal incomes. Also, this type of tax rate increase can help to discourage excessive speculation by the wealthy. Here, we might want to modify the provisions to relieve income that is used to finance expansion of essential business. Thus, we have proposed an excess-profits tax to graduate certain tax rates on profits to promote reinvestment and to help control inflation. We can expect capital gains, sales and even property tax rates to be coupled eventually to taxable values. Such measuring up to responsibilities is quite important for supporting government action on economic stabilization.

Our Hybrid Economics has accumulated quite an assortment of taxation procedures and some of these may have restricted relationship to expenditures. Our protective tariffs might well be allocated to the assistance of business. But, we must be careful that these taxes help rather than hinder international

trade. Our property taxes must be judged a fair way for government to get money for services to the communities. Still, as assessed evaluations increase with inflation, these tax rates should be restrained to relieve this pressure and general funds should be used. We can understand that sales tax revenues might be placed in general funds, if they are not collected on the sale of food. Income taxes seem to be quite just ways for us to contribute to general funds, though we should close up most of those loop holes for the rich. Then, our social security taxes become the foundation of a vast insurance program to pay for our retirement years. We can support this program even though it makes every employer part of the collecting process.

One questionable process for government to collect money is the double taxation of business profits. Here, a corporation may pay taxes on some of its income, before it declares dividends and distributes its profits to stockholders. Then, our stockholders pay taxes on their incomes that include these dividends. Such practices obviously require careful evaluation, because of probable impact on consumer economic systems. At least, we know that the standard "passing taxes on" to the consumer contributes to inflation. Also, quite reasonable profits and quite essential reinvestments must be encouraged. Our cooperation in supplying government with money must demand the fairest collection methods that hopefully will have beneficial side effects.

We can draw all kinds of hypothetical curves of government revenues plotted against our overall tax rate that are largely meaningless. Our closer analysis indicates that these curves depend completely on the degree of cooperation between those in authority and the tax payers. Most of these assumed parabolic relationships between revenues and tax rates assume that we will quit work, when we are made to give society many special services. Presumably, if government takes much of our money from us to operate its function in our economy, we will stop our economic activities. But, when we examine various individual economic systems, this assumption seems far from valid. If war breaks out, we certainly concentrate on our war economic system with remarkable enthusiasm and without a thought of quitting. Our defense economic system, which operates completely on tax money, seems to carry on with some efficiency and effectiveness without even giving any services.

Improvement In Hybrid Economics Requires Greater World Cooperation

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We can realize that improving Hybrid Economics is a complicated process. Our four different kinds of nations in our economic world accentuate the need for massive international interchange of goods and services. We just cannot expect any nation to become totally self sufficient. Also, the substantial difference in the way that various people can contribute to our world commerce calls for greater international cooperation. Definitely, increasing world unity is essential for many economic improvements. A considerable number of our economic systems must be considered in predicting the growth of this cooperative structure.

Our restricting numbers and improving abilities of people demands our attention, while we strengthen world economies. Our world population explosion must be controlled to keep the international exchange processes within reasonable limits. We really need fewer people on earth. But, at least those that we have on our planet must have better knowledge and understanding. Thus, those who possess better abilities must provide substantial help to countries that need more trained people. Here, our expanding process must make school systems all over the world more competent in furnishing physical, mental and emotional education.

Better governmental structures that provide fairer trade agreements can always give our world economy more improvements. We desperately need more countries with constitutional, representative governments that are headed for true democracy. Our trade between countries has more equitable apportionment and greater stability, when we are dealing with people rather than tyrants. Individual human beings need food, water, clothing, shelter and education and they are the ones who are injured when these things are in short supply. We can measure up to responsibilities for exchanging goods and services, when we trade with people.

We can always take a step upward in the manufacturing realm. Production economic systems of most countries require raw materials from abroad. Then, where technology becomes highly developed, products can be made that must be sold abroad. Expansion of these interactions calls for much better world interaction.

As we are well aware, any fair exchange of energy producing materials can always use better distribution allotments. Many

countries are deficient in oil and natural gas for house heating, industrial operations and general transportation. But, currently these energy sources are extraordinarily important for all industrial countries. Thus, we need our enhanced world cooperation to involve oil-rich nations in dividing up their energy products with oil-poor countries.

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To make steady progress in Hybrid Economics, we may need to remodel the details of our world trade framework. Here, one requirement may be for corporate businesses, which operate in the international market, to have worker representation on decision-making boards. Our experience suggests that trade improves where people do business with people. Another step upward may occur when we have a dual banking system in each country, one managed by government and the other private as at present. Then, our government banks could stimulate the economics of our separate nations and control the flow of currency between countries. With such better fine points, we can expect greater reciprocal trade.

World wide planning for economic efficiency is essential to improve our use of earth's resources. We can certainly benefit from wide use of our present supplies and active searches for new raw materials. Then our waste products must be used over and over again indefinitely. Also, conservation of water, soil, forests and energy must receive our close attention. Throughout our world, we must constantly try to anticipate materials becoming in short supply and to develop better substitutes.

Our more complete world economic involvement, so we have better distribution of goods and services, requires peaceful approaches. We must draw all people more actively into our exchange processes, rather than keeping them out. But, this involvement process must not include terrorist tactics any more than the suppression and exclusion devices can be allowed their imprisoning, torturing or slaughtering acts. Our working together becomes quite isolated under the tensions created by fear. We must have discovered by this time in human experience that real economic progress takes place in an emotional environment that is friendly and an intellectual atmosphere that focuses on improved cooperation.

Better international cooperation that could lead to improved Hybrid Economics not only needs a halt in the arms race but makes such military escalation nonsensical and even sinister. We should recognize the desirability of having an international police force to maintain order where disturbances arise. But,

our attitude and national policy that we must become better prepared militarily than our main enemy leads to actions that are quite dangerous to world trade as well as to human survival. The waste of goods and services in the arms race can lead to developments that are almost as disastrous as the war that may follow. Then, the possibilities for conversion of our military industries to economic systems that could produce considerable consumer goods and services is quite exciting. Our preparation for a better peace is highly important for our world economy.

CHAPTER 35

LIFE IN ANY SOCIETY AS A RATE PROCESS

Why must we pursue our social improvements so vigorously in Problem-Solving, when we may have lots of time for human advancement?

Problem-Solving emerges as a powerful human resource, when we realize that human life in any society is a rate process. Our Universe practically is a seething infinity of action over an eternity of time. But, time is a tyrant that will give us as individuals only a few moments on earth and as societies only relatively short intervals, which duration is largely up to us. The progress that we make per unit of this valuable time and our persistence in continuing this advancement rate tells the story of our accomplishments. Also, our societies may be so short lived that their existence is only significant as a rate of improvement. Thus, our fundamental social studies must be divided between understanding social development and accomplishing social engineering. Here, we must continue to accumulate considerable knowledge about human interaction. Occasionally, we seem to have a breakthrough in understanding social problems. But, our application of social principles has only had a confusing start.

Early Social Development Almost Rapid Enough

Any study of history teaches us the tremendous power of Problem-Solving in stimulating our early rate of social development. Our earliest ancestors faced many difficulties that required relief promptly enough. In those days, our problems of survival demanded that we develop tools, with which we could do things that our hands could not. So, chisels, hammers, bows

and arrows and wheels came into being relatively rapidly. Each need usually generated some useful remedial product in time to meet its requirements. Apparently, our struggle to reach higher levels of accomplishment drove us upward rather consistently. Now, we can comprehend our present acceleration in development of machines and machines to run machines, even when it leaves many difficulties untouched. 352

Our means for obtaining food advanced along equally astonishing paths of improvement with time. At first, we hunted other animals individually or by following the herds. Also, our vegetable diet was just what we found in natural habitats. Then, we discovered the excitement of providing more reliable sources and better things to eat. We even learned how to work the soil better and plant grain to raise food. Gradually, we domesticated our animals for food, as well as to help us with our work. In time, we originated incredibly efficient agricultural production methods. Most of these inventions have occurred as sudden steps of progress to meet emergencies. Thus, our remarkable increase in amount of food that we can produce has been a matter of great satisfaction, as our populations have grown. But, we have not relieved our hunger difficulties well and face a starvation crisis in the future.

Our social organizations have made considerable progress with time as the need for protection and cooperation was recognized. Our families may have agglomerated fairly rapidly into tribes, which offered more defense against any aggressor. Also, as tribes became larger, their federations assumed quite complicated structures, with areas in which people crowded together. At a relatively fast rate we began to bring cities into being, where special services became available. But, cities presented many problems of people getting along with people. So, we created local governments to exercise enough authority to control undesirable human behavior. Thus, through our Problem-Solving efforts, our modern industrial societies started building structures with a measure of cooperation. Now, we need considerable expansion in our working-together efforts.

Evidence for strength in coping with difficulties has shown up quite clearly in our basic social evolutionary processes. Human beings have felt expanding need for improvements and they have made many firm resolutions to work for advancement. Also, they have gained interesting insights into what might provide relief for difficulties and have taken many steps that have made progress with time a reality. Thus, our experi-

ences have built an enlarging picture of human beings learning to work together to advance society almost as fast as problems have cried out for our help.

Cooperation Broadens At Scarcely Desirable Rate 353

Our associations of people around the world have developed their own cultures that have allowed interaction between societies to variable degrees. As an example, societies have created their own languages, so members of each group communicate, while few signals could pass across group boundaries. Then, trade expanded between societies enough that those involved in international businesses learned many languages. Even so, we are still unable to break our language barriers at any significant rate, although radio and TV offer some hope. In addition, different ideas and ways of doing things have originated in various areas of our world. But, we have been slow in spreading this knowledge around. Fortunately, inter-society communication is expanding with time as problems develop that require worldwide action.

Communication through art has contributed much to increase the cordiality of human relations over the years. Most of us in various societies have grown to appreciate many kinds of drawing, painting and carving at a relatively good rate. We have our own ways of representing objects and scenes. But, we are growing to value any special refinement of form or color by others. Also, we are learning to comprehend the charm of grace, symmetry and delicacy wherever we see it, while the effect of accuracy in proportions usually penetrates deeply. All of this appreciation has speeded-up our ability to work together as fellow human beings.

Music and dance, while they vary from society to society, still serve as effective means for communication. To an increasing degree, we can grasp the significance of all well composed musical scores, even when sounds that are scarcely musical acquire some popularity. Beautiful melodies show signs of having greater appeal to people of many backgrounds. Motion of any dance that is graceful and attractive in form tends to fascinate members of all societies. Human beings seem to have a universal need to perform.

Our social development in various countries has been accompanied by changes in the organization of our homes over the years. We have some difficulty determining a rate of improvement, because our family relationships have gone up and down

on the warmth and stability scales. In fact, our family compassion and tenderness has always been a fluctuating variable. But, our stable homes may have become more cooperative at a reasonable rate. Although our families that have been broken up by divorce have suffered severely from their handicap. Our homes seem to have advanced primarily through growth in equality between the sexes. Although dominated over the centuries by the male parent, homes that stay together today show a pronounced tendency toward a balance of power. Mothers seem to be acquiring as much authority as fathers. What we may miss most of all in our homes is more rapid improvement in the training of children for problem-solving.

Our educational systems worldwide have shown some progress with time, while retaining many deficiencies. We may have taken our best step forward, in the USA, when we provided free education for all students through high school. Here, we even have made schooling compulsory up to sixteen years of age. Also, our attempts to desegregate our schools have moved forward, though slowly. But, motivation of students has shown quite a variable rate of advance and improvement in teaching skills has continued to depend on the individual teacher. So, our learning situations have evolved quite gradually. We can observe only a slow rate of advance for the substance of our average curriculum. We are just beginning to realize the shortcomings in our teaching procedures in terms of student ability to work problems as well as skills in reading and writing. Maybe, we can inject that one-to-one communication into our teaching-learning methods, which seems to be so powerful.

Due to expanding world cooperation, we have made substantial advances in health care and occasional increases in personal safety. Many bacterial diseases are quite completely under control, as a result of our sanitary practices and use of bactericides. Also, a number of virus afflictions are disappearing, because we have developed vaccines that render human beings largely immune. In addition, we are obtaining increased coordination between surgery and chemical treatments for relieving many bodily ailments. In the personal health care and safety realm, human beings seem to be their own worst enemy. We are making progress in preventing health difficulties by improving human nutrition. The fact that our diets are frequently not very wholesome is usually the result of our pampering ourselves. We have discovered the substantial health hazards of smoking tobacco, drinking alcoholic liquors and using other drugs. So,

some faulty belief in indulgence seems to prevent significant decrease in the use of these harmful addictions.

Our expanding knowledge and understanding are creating a powerful cohesive force in our world. Science knows no national boundaries, while it grows at a phenomenal rate. So, we have maximum interchange of scientific information and remarkable collaboration between scientists of different countries. Investigators that work on the same scientific problem show increasing cooperation, even when they may compete actively to see who can make the first breakthrough.

Industrial societies tend to become specialists in our world of nations. We have food producing areas, manufacturing countries, an oil producing cartel and nations that have excesses of other important natural resources. These specialties have created a compulsory interdependence that must draw all societies together. So, our demand for world cooperation tends to grow at a good rate even when our responses do not improve fast enough.

Much Is Needed To Relieve Many Social Difficulties

Our trend for the rich to get richer and the poor to get poorer has been difficult to check. Poverty may make us conscious of our condition, when we are first caught in its terrible trap. But, our concern about being poor may turn to apathy after a few years. Also, if we have good jobs, we may become quite insensitive to our whole poverty problem, until we become unemployed. Then, the shock of being thrown out of the economic systems hits us hard. Such cruelty of poverty has made us sympathetic enough to create unemployment insurance and welfare to relieve its harshness. Still, unemployment insurance is no replacement for jobs and welfare is no substitute for full employment.

At the other end of the living standard, we may not complain about wealthy enterprisers becoming successful in important businesses. But, we can grow indignant when we learn of rich who rip-off governments and become super rich. So, our democratic objectives must include the achievement of some income leveling, because comparable earnings may be essential for equal opportunities. Currently, we give the rich substantially greater financial responsibility than the poor for the support of government. Yet, this variable support does very little income leveling. Our great divergence in family income continues without abatement.

Our inner city decay and our great frustration over urban renovation do not show sufficient rates of relief. We may develop hopeful plans for reconstructing dwelling houses and business buildings in our dilapidated congested areas. But, we encounter considerable resistance to implementing and financing these improvements. Also, renters are frequently left out of consideration. So, our renewal plans are slow in being fulfilled.

Our city renewal in large metropolitan areas requires careful consideration of all basic modes of transportation. Here, we are just beginning to face the problems of crowded streets and freeways, expensive and inconvenient parking places and high cost of fuel for cars with a single occupant. We have experimented with buses and taxicabs for many years without very much success. The optimism that some people hold for rapid transit railroads, either subway, surface or elevated, seems largely unjustified. Also, our attempts to organize freeway traffic with diamond lanes for busses and car pools have met with few favorable responses. As far as we can tell from our slowly improving condition, most of our serious transportation problems demand more problem-solving skills than we display at this time.

Crime, as an expression of the criminal mind, is another baffling difficulty that arouses apprehensions in most of us. We have enough concern to keep our doors locked tight at night and our stores are on constant alert to apprehend shoplifters and burglars. Also, our homes may become arsenals of weapons for protection that are often involved in deadly accidents. Unfortunately, our understanding of the crime problems has been so limited that we have had little chance of a breakthrough in providing relief. We do know two things, one is that effective measures to eliminate the criminal mind must start early in life, the other is that we are already late in getting started on the problems. Thus, prevention of crime and rehabilitation of criminals must receive much more of our serious efforts right now.

Some puzzling social problems persist from discrimination against some of us for characteristics that are beyond our control. Widespread belief that women cannot fill certain jobs has been one of our persistent forms of discrimination. Also, women have occupied a special inferior legal status down through the ages. Fortunately, this differential treatment of the sexes seems to be disappearing at a reasonable rate. We can look forward to situations in most societies in which the two sexes will have quite similar rights and opportunities.

Racial discrimination, which allows members of minority groups to be given inferior treatment, does not disappear very rapidly. Defense of this differential treatment has even given our prejudiced minds incentives for trying to discover racial inferiorities, without success. Here, we have irrational preconceptions that make our societies unstable. But, with sufficient skills in working on problems, we may be able to make progress in eliminating this divisive attitude at a better rate.

Rigid economic ideologies have a powerful tendency to divide us into opposing groups, even inside of national boundaries. With some antique economic thinking, many of us advocate complete elimination of government from our economy and establishment of pure private enterprise. As a counter action, we have socialists who stand for complete government ownership and operation of business like we find in communist countries. In spite of its practicality and flexibility, our Hybrid Economics can scarcely avoid being caught up in the confrontation. Thus, our ideological divisions promote hostility that threatens all cohesive forces.

Complex boundaries between our societies keep us too far apart for the best cooperation. We have the North Atlantic Treaty Organization and the Organization of American States as groups of societies that are trying to draw closer together. But, in most of these groups, we have an isolating type of nationalism that relaxes rather slowly. Our relationships with other countries is highly colored by national interests. Rivalry and jealousy create considerable competition that seems restrained only when the effect is to our mutual advantage. Also, we still tend to exploit others whenever possible. So, our antagonisms breed much discord, which our United Nations or other international organization must learn how to eliminate, before we can bring about a better peace at a faster rate.

Principles Of Social Evolution

Our social scientists have become increasingly active in uncovering principles that describe the evolution of group behavior. Now, fundamental convictions are becoming more available for some background to social progress. Naturally enough, we find that our ideas about this kind of advancement must match our basic principles for solving problems. Effective remedial activity depends greatly on our awareness, concern and determination. We do not give social problems much attention until we are conscious of their existence, want them solved and

are ready to start to work. Then, those of us who are going to do most of the work must understand what is wrong. In fact, a high per cent of us must build up strong elements of motivation before we can achieve substantial relief from our difficulties. Many road blocks must be demolished before massive progressive action is possible.

Many societies have relieved some of their difficulties by getting more involved in a struggle to find improvements. Our steps forward in social development have been a series of inventions for making human relationships better faster. After each upward step, all of us have needed to learn new ideas by communication, identification and group participation. Our study of our social learning process is a tremendous challenge. Here, we may need to classify societies, grasp the nature of their peculiarities and evaluate relationships as rate processes. At each stage in these investigations, we must search for cause and effect indications of why our societies behave the way they do and how we can make them improve their conduct more rapidly.

Our social experiments never have all of those neat controls of physical scientific investigations. While we are studying any social problem, we must make first-hand observations, both from inside and outside of each implicated group. Also, we must try to get further information from interviews, questionnaires and polls. Next, our analysis must be as critical as possible, with consideration for many alternative conclusions. In fact, every conclusion must be tentative and related to time as well as rate of social progress. Our studies have little meaning unless they are repeated at frequent intervals and the results are viewed statistically. We might even want to create social models that would enable us to carry out small scale experiments. But, to be practical, we must translate what we learn into possible programs for more rapid relief of our large scale social difficulties.

PREDICTIONS

CHAPTER 36

POSSIBLE SLOWING RATE OF ACCEPTANCE

What might contribute to a decrease in our rate of acceptance of Problem-Solving as a human belief?

Any slowing in the rate of *Problem-Solving* expansion results from our failure to abandon weak doctrines that retard our improving efforts. We need our continuing struggle to relieve difficulties in order to maintain our enormous excitement and warmth. When we introduce any static or degenerating ideas into our lives, these non-progressive ways obstruct our own advancement. Then, our slower action delays the spread of problem-solving among others. So, if we have any restriction in the growth of this belief, we must search ourselves for some lack of deepseated concern about helping people. Also, when our coping with difficulties does not expand as rapidly as hoped for, we can suspect that knowledge and understanding are escaping us. Our stimulation through our gaining greater perception about helping others must make us work on problems hard enough to keep improvements escalating.

As we press upward, our main obligation may be to identify weak doctrines that slow down acceptance of our belief in *Problem-Solving*. Many of these retarding ideas have a firm grip on our lives. So, first we must discover them. Next, we must confront such oppositions as major obstacles in our work on improvements. At least, we must analyze the nature of our inner obstructions. Then, we must struggle continuously to overcome these retarding forces.

Belief In Illogical Ideas From The Occult

If we fail to speed up our work on problems, our delayed action may be partly due to our embracing a supernatural belief. Usually, we do not struggle for improvements with vigor, if our faith holds on to ideas that are quite emblematic. Inert, we may place confidence in symbols, rituals and creeds; apathetic, we may think that recitation can be a substitute for helping people. Our inaction may find ready excuses, as we expect some magic power or supernatural being to respond to our symbolism.

We may slow down our improving efforts, when our mystical beliefs do not emphasize our human responsibilities. Our illogical ideas may make us either unaware of difficulties or insensitive to emergencies. If we assume that, when we avoid doing anything bad, some mysterious action will eliminate our troubles, our involvement in improvements is liable to disappear. We may step aside quite gracefully and let such hidden force assume our responsibilities. But, whenever we let someone else do our remedial work for us, our personal progress can suffer a substantial setback.

If our struggle for progress slows down, the reason may be that mysterious thoughts hold more attraction for us than logic. We may give up our search for understanding, if we become obsessed with the non-thinking of some cult. Then, we may fail to become involved in an important experiment, because our ideas are not questionable. Any valid test of progress may not square with our illogical preconceptions. So, we miss out on the tremendous stimulation of problem-solving that demands continuing active quest for better ways of living together in our remarkable world.

Obstructed By Rigid Arbitrary Beliefs

In case we find our belief in improvements developing at a slower rate of acceptance, we must examine ourselves for pretensions. Some of us may have become arrogant and may think that our ideas are better than anyone else's, because they are ours. So, we may be unwilling to compromise. Also, we may have transferred our loyalty to radical doctrines that are untested. In addition, our pretensions may demand drastic changes instead of gradual and carefully planned modifications. Thus, if we get back to working on difficulties, we must inject into our situation the principle that we are all in the same world and must learn to work together.

Where problem-solving tends to lose momentum, we may find ourselves trusting in the tyranny of some discriminatory faith. Such creedal retardation may be quite disrupting, when we place our belief in a caste system, like Nazism or Fascism. While we are active in building world cooperation, we cannot allow ourselves special privileges because of any distinctive background. If we discriminate against people because of race, we interrupt our social improvements severely. Racism is one of our most perplexing stumbling blocks to world harmony and interaction. Then, if we should continue to regard females as inferior to males in most positions of employment or authority, we can slow down our social progress decidedly. We must struggle for increased recognition of all human beings, if we keep ourselves on the track of coping with difficulties.

As social and economic justice develops slowly, we may embrace Communism, which puts powerful brakes on improvements. Here, authoritarian planners of the Communist Party assume practically all responsibility for change. Under this dictatorship we have minimum freedoms. We cannot move around the country without government permission; we cannot leave the country without authoritarian action; we cannot criticize our authority without risk of going to prison; Then, our education is more brainwashing than learning how to organize lives better. Someone on top is always deciding what opportunities we are going to have. Also, our tyrannical leaders, in their seats of power with ingrained corruption, run all of our businesses. This rigid belief focuses on an utopian dream of absolute economic equality, when what we really need is equality of opportunity to make improvements.

Our coping with difficulties may also be delayed by a type of rigid economic belief that is quite the opposite form. Here, critics of our Hybrid Economics believe in keeping government out of every economic system. We never know how far these ideas might want to go. But, we feel like they might want to take us back an unknown number of centuries. In such illogical doctrines, we have no way to start critically essential businesses and we have no practical suggestions for universal education. We would eliminate much of our scientific research; we might allow ourselves to be inundated with waste and pollution; we might have difficulty extracting ourselves from our energy crisis; we might miss much of our police, firemen and library services; we might never know if any of our consumer goods and services were safe. The role of government in our economic systems is

expanding in a spontaneous way that is usually absolutely essential.

Worship Of Prestige And Endowments

Where our work on problems begins to falter, our efforts may be debased by our demand for excessive personal power. Such slowing process may be particularly evident, when we work strongly for great wealth. Here, we may become obsessed by the idea that we deserve all we can get legally, possibly illegally if we do not get caught. But, our improvement efforts may receive their greatest retardation from our acquiring too much authority that wrecks responsibility. Such over-important positions become valueless, when we use them mainly to manipulate people. Nothing foments greed, dishonesty and corruption like the longing for prestige; nothing generates generosity, honesty and responsibility like struggling with problems.

A contributor to slackening in our rate of involvement in improvements may be our attaching special esteem to innate skills. Our exceptional capacities are usually of value, because we often need high intelligence and special skills in difficult jobs. But, when we are working on most problems, how well we charge up our capacities and use our charge with determination to make things better may be more important. What our belief needs most is warm people who can acquire understanding and can get activated, so they acquire considerable experience working on problems.

Trapped By Indulgence In Drugs

Our drug habits almost always relieve us of responsibility and prevent us from getting involved in working on difficulties. Sometimes, we are simply interested in escape from fears of failure or frustration. Often, our habits merely develop the laziness of not wanting to struggle with problems. But, usually we acquire sensual or psychic tingles that become compulsions to indulge ourselves. Thus our lives have irresistible impulses, while they miss our enormous satisfactions of participating in improvements.

The results of drinking alcohol on our general personal reactions leave a great deal to be desired for problem-solvers. Our psychological and physiological responses, which trained observers have detected in us after a few drinks, are largely regressive and depressive. Any euphoria that we may experience is so artificial that it only appeals to other drinkers. Our judgment

may deteriorate first. Also, the reaction speed for our nervous and muscular systems is appreciably slower, when the alcohol content of our blood becomes only slightly above normal. Then, our slowness of comprehension and slurred speech soon make us quite uncomfortable, so we act either silly, angry or despondent. At this point, we are scarcely capable of assuming responsibility that requires careful concentration and strategic action.

Our unsatisfactory family life is frequently a tragedy of the alcohol trap. Our marriage may become very fragile, if either husband or wife or both drink. Companionship and friendly cooperation are easily drowned in alcohol. In fact, any favorable relationship between husband and wife demands that we face our family problems soberly. Certainly, we cannot have one mistreat the other. Also, drinking parents have given alcohol a still more terrible liability. Child abuse is prevalent. Then, children are in the middle of the family and giving them reasonable guidance requires highly alert supervision. We have so many and such baffling difficulties, as we try to train our children, that we dare not run-away to the bottle even for short times. When we are irresponsible enough to be drinking parents, our children usually end up as unable to cope with life's difficulties as we are.

Our performance at work is liable to suffer drastically from our alcohol indulgence. When we keep nipping at a container in a drawer, we will take considerably longer to get out our reports. Then, those elongated lunches that include our indulgence may interfere with much of our afternoon's work. Our depressant seems to slow our activity down substantially. Also, our hangover from the night before does not help with the next day's work. We can verify some astonishing amount of wasted time in industry and business that results from our drinking habit.

Some rough estimates suggest that 70-90 million Americans drink alcoholic liquors rather regularly. Of these, 9-11 million are alcoholics and another 15-20 million are near problem drinkers. Such estimates mean that alcoholism is one of our major diseases and an astonishing additional number of us are dangerously close to being alcoholics. Actually, we can place this escape habit among our three top physical health hazards. Such disease arrives, when our craving for alcohol becomes continuous and our drinking becomes compulsive. At this point, one drink is too much and one hundred are not enough. Any

personal embarrassment or psychological difficulty may send us on our alcoholic fantasy. Then, our drinking dissolves our conscience and eliminates restraints, even when we develop guilty feelings. We do not seem to have any warning and may slip into this tragic disease with disastrous ease.

Alcohol consumption promotes so many other diseases that we might expect social efforts to control drinking just for these reasons. When we think of these health hazards, such as various kinds of ulcers, destruction of pancreas, cirrosis of the liver and some kinds of heart difficulties, we must become worried. At least, we must be thankful that we have Alcoholics Anonymous to cultivate abstinence. Elimination of our alcohol trap might help us avoid many serious afflictions and proceed with rational improvements for our health.

When we think about what drinking liquors does to many social gatherings, our reflections become little short of appalling. We arrive at our drinking party and immediately have liquor thrust into our hands. Still, this small amount of alcohol has little effect on our feelings. Our first drink does not give us the sense of having arrived and another must follow. Our imbibing a little more, which is quite a variable amount for different people, has a variety of effects that soon indicate the start of the party.

During the next stage, in which we are a little under the influence, the extra alcohol in our blood creates an assortment of effects. Some of us get duller, others get louder, many become less able to talk clearly and most are prone to laugh at everything. We may appear a little stupid and we can scarcely be counted on to carry along any intellectual conversation. Frequently our unrestrained comments are inexcusably uncomplimentary; on occasion our funny remarks are what we would like to keep secret; too often our irrelevant observations are not what we wanted to say at all. Our alcoholic talk becoming nonsensical may have a minor effect on our party, when most in attendance are in this same condition.

If our drinking party lasts long enough, it may create some still more objectionable people. After a while, our much less than desirable pugilist makes his appearance. Violent quarrels may not be uncommon and homicides occur altogether too often. Then, our sexually bold ones feel less restrained at our party, which in a mixed crowd results in exaggerated petting. Male and female tend to relax sexual controls greatly and too often go the limit, after seeking minimum privacy. Also, our drinking

may bring about the less than delightful occurrence of one of us getting sick and vomiting in the middle of the crowd. Of course, a few of our partakers may get drunk and behave in an obnoxious inebriated manner. We can observe some remarkable performances at a drinking party.

We find that alcohol has a very poor safety record, although much of this hazard has incomplete analysis. Those of us who stagger around under the influence of our indulgence contribute substantially to the large number of accidents in the home. Here, our loss of alertness and decreased reaction speed takes a heavy toll. Then, when we get away from home, our accidents after drinking are much more easily detectable. According to authentic reports, drinking drivers are responsible for well over half of our traffic deaths and injuries. At the same time, we know about this hazard and an insignificant per cent of our car-miles are driven by drinkers. So, our small minority of drinking drivers is responsible for killing 30,000-35,000 of us each year. Our only conclusion can be that drinking bears an awful black mark against humanity as the number-one killer of those under sixty years of age.

Crimes of many kinds, particularly those involving violence or sexual assault, seem connected with the drinking of the criminal. We have insufficient information on the criminal rate among drinkers. But, many reports of criminal activities disclose that we need to be hopped-up with alcohol or other drugs to commit most of our crimes. An astonishing high per cent of murders and robberies are committed by those who have been drinking. Possibly, a still higher per cent of rapists are in this condition. Apparently, most of us do not have the absence of restraint and the total carelessness that a criminal must have, unless we indulge in our chemical violence-promoter. When we add on the crimes of our stealing to get the money to buy our alcohol, our list of violations become astonishingly long. We seem to have no reasonable chance to take crime off of the streets, if we continue to drink alcoholic liquors so widely.

Many of us escape from problem-solving largely through our indulgence in smoking tobacco. Taking any kind of smoke into our respiratory systems might not seem sensible to anyone sitting around a campfire. Still, with our tobacco smoking habit well developed, we can imagine all sorts of benefits from breathing this dispersion of tarry droplets. Even after we have given up the habit, we may claim that we had pleasure in our smoking. Still, the effect may be just the self-satisfaction of a habit, as

our pleasure seems quite undefinable. Then, those of us who have given up the practice seem to object more strenuously to being around a smoker than those of us who have never had the habit.

As is easily observed, our belief in our tobacco smoking indulgence is a great affront to humanity. In this belief, we show almost complete disregard for any non-smoker in the vicinity. "Let the non-smoker beware" seems to be our smoking rule. At least such disrespect and discourtesy are relatively normal. We cannot realize that tobacco smoke irritates the tissues of nose, eyes and throat of the average non-smoker. Such irritation, forced on neighbors, may be slight or it may be severe causing great discomfort. But, as smokers, we take our indulgence as more of a right than the non-smoker's right to clean air without irritation.

Our right to contaminate everyone's air is less sensible than most smokers can possibly imagine. We may think that air conditioning, with filtration and forced circulation, saves us from becoming complete nuisances with our contamination. But, our non-smokers who are particularly sensitive to burning tobacco's tar and waste gases do not get complete relief that way. We even suffer distinctly from the tobacco odor in human breath, clothes, cars and houses of smokers.

Our obvious fire hazard has not discouraged those of us who believe in our tobacco-smoking indulgence. We casually handle our burning fag as though we were not carrying around a fire. So, we start a substantial per cent of destructive fires with our careless acts. Of course, we have several natural causes of grass and forest fires, such as lightning and spontaneous combustion in large masses of decaying vegetation. But when our fire starts right beside a road and sweeps up a canyon to destroy several houses, we do not need an investigation by a specialist to determine its cause. Also, when we are burned to death in bed or on a davenport in our own home, the origin of the fire hardly requires extensive study by an expert. Actually, our yearly costs of destruction from fires set by smokers are enormous. A good safety suggestion for a head-of-a household is to make a careful inspection of the house each night after every smoker is asleep.

Aggravation of our Bergers disease by smoking has been apparent since early in the twentieth century. But, many of us have had limbs amputated and have died quite early, just because we refused to give up smoking cigarettes. Even if it stops up our capillaries, we must have our tingle sensation. So,

we must go through some hospital's diagnostic clinic, before we believe that smoking intensifies this circulatory disorder.

Other smoking troubles, which are closely linked to our heart functions, are formidable enemies of human good health. On the trail of facts about these disorders, our findings suggest that this smoke does more damage than constricting blood vessels. Now, cigarette smoking stands out as one of our major contributors to heart trouble. If we have had the habit for some time we may have over twice the chance of having either a heart attack or a stroke. So, The American Heart Association and the medical profession in general seem convinced that giving up smoking is a good way for us to improve our circulatory systems. If we are really anxious to have a healthy heart, we must stop smoking and improve our other remedial practices.

At least two painful types of stomach disorders heal with a great deal of difficulty without a total cessation of tar inhalation. But, our obtaining knowledge of this sort does not mean that we will consequently stop our habit. A remarkable number of us are willing to be invalids much of our lives while we confine ourselves to our religion of tobacco indulgence.

All evidence indicates that tobacco smoking contributes strongly to the development of lung cancer. This indication is no surprise to those of us who have collected the tar from the burning of one cigarette and realized that many of these materials, including benzopyrene, are carcinogens. But, our statistical story about lung cancer, in authoritative form, did not come out until after 1963. For this story, a formidable advisory committee of the Surgeon General of the USA carried out a lengthy study of the correlation between lung cancer and tobacco smoking.

The important report of this committee had all of the aspects of an indictment against smoking that was brought out grudgingly by investigators who were difficult to convince. As an example, the report gave its comparative results using a special norm that disguised the indictment except for careful readers. This norm included smokers of all kinds, non-smokers who associated with them as well as non-smokers who were free from contamination. Incidence of our serious disease was compared largely between smokers and this norm. On such basis, the committee said that a heavy cigarette smoker has 10-30 times the chance that our all-inclusive norm has of getting lung cancer. Such statement was not totally informative, even though it included the information that these chances increase

with the number of packs smoked per day. The need for greater clarity became obvious, when cigar and pipe smokers seemed to show incidence little above the norm.

Fortunately, the Surgeon General's report does enable us to discover more essential, though somewhat concealed, information. It gives us the incidence of disease for religious non-smokers who do not associate with indulgers. Seventh Day Adventists have only one-tenth the per cent of lung cancer cases that are reported for the norm. With this valuable information, we can make a most important adjustment to the reported results. Compared with the real non-smoking group, cigar and pipe smokers have over ten times the chance and cigarette smokers have 100-300 times the chance of getting lung cancer. Obviously, our cigarette filters should take-out considerably more than two-thirds of the carcinogens to be safe. 368

Apparently other respiratory diseases are more prevalent among smokers than non-smokers. Emphysema falls in this category quite naturally, as tobacco tar is irritating to lung tissue; chronic bronchitis shows a correlation with smoking, as these tubes get more tormented by a bigger dose of exhaust chemicals; throat ailments increase under our indulgence, as this tissue is also sensitive to smoke. If we want to take better care of our air-breathing apparatus, we will give up our smoking.

More recently, we have learned that some subtle materials cause all sorts of health problems among smokers. Probably, no part of our bodies escape completely. That innocent smoky exhaust from our cigarette, which we seem to enjoy so much, contains significant per cent of carbon monoxide. With every drag of tobacco smoke we are taking in more of this toxic chemical, which ties up hemoglobin in our blood, than we would get in a breath out on the highway. If we smoke much, we can expect to suffer from incipient carbon monoxide poisoning. Then, hydrocyanic acid occurs in our tobacco exhaust in nearly as high a concentration. Our bodies can certainly get along better with smaller amounts of this poison that causes its own degeneration. We might deserve these toxic materials from our own cigarettes. But, close association produces unjustified amounts of these poisons in the blood of our non-smoking friends.

We might have thought that our information on the hazards of smoking to health was prejudiced before 1978. But, during that year a report was released that covered a fourteen year research project by the American Medical Association's Com-

mittee for Research on Tobacco and Health. Remarkably, most of the fifteen million dollar cost of the study was paid by grants from tobacco companies. Still, the bulk of research sponsored by this project gave powerful support to our contentions that smoking tobacco is a substantial health danger. Much of the report confirmed the peril of smoking as an aggravation to circulatory diseases. At least, we can accept this report of tobacco hazards as being largely free from bias. 369

Additional unfortunate smoking consequences, which are almost to be expected, seem to be coming to light. As women have adopted the tobacco habit, which was largely a male indulgence until recent decades, the incidence of diseases that are aggravated by its smoke has accelerated for human females. In one respect, this increase has given further evidence for the personal hazards of tobacco. Also, side effects raise questions about the probability that a pregnant woman who smokes is damaging her fetus. If the results of early studies are confirmed, we can hope that all women who carry fetuses will refrain from this harmful indulgence.

When we confine our tobacco smoking to home, office or casual walk, we serve humanity better than some indulgers. A large number of us smoke while driving cars. Some of us must light-up as soon as the car is started, while we are waiting for the engine to warm up. Others get our cigarettes going at the first stop light. Then, we go driving down the street, paying about as much attention to our smoking as the road or the other cars. Incidents are accumulating too fast in which, as offenders in a collision, we have a package of cigarettes and the lighter prominently displayed. Also, analytical chemists have finally analyzed the blood of many thousand drivers responsible for accidents. Of these, the carbon monoxide hemoglobin in their blood gave overpowering evidence for the hazards of smoking while driving. We have safer ways of escaping from our responsibilities than breathing tobacco smoke, when we are behind our steering wheels.

Our belief in *Problem-Solving* might not show continued progress, if a larger proportion of us should fall victims to the treachery of "high" drugs. We can hope that their use as indulgences will remain illegal to exercise some control over such relatively dangerous habits. Still, our discussion must avoid the temptation of making many general statements about such a large number of chemicals with such widely varying effects. Then, we even have an increasing number of "high" drugs that

are available for those of us who worship this belief. As we might easily imagine, our worship of chemical indulgences has not found the perfect escape. Our physical, mental and emotional degeneracy that accompanies the use of these personality-deforming materials has not satisfied our withdrawal completely.

We have marijuana as one of our milder drugs that has quite different effects on users at medium dosage. When we consume this chemical, we do not know whether we will experience mild dizziness, moderate "tingle" sensations or a measure of drunkenness. Many users claim that their drug has less harmful effects than alcoholic liquors, as though this is any recommendation. Some of these users even complain vigorously about its legal restraints. On the other side, a thirteen nation conference has brought out some powerful indictments of marijuana. Here, we learn that our cannibinol compound can do pronounced damage to our brains, lungs and sex organs. In fact, we can scarcely predict what the full range of deleterious effects of smoking this material might be.

Arguments about whether or not marijuana is dangerous tend to cover up an important consequence of its use. With our consumption of this chemical, we inject into our society another source of irresponsibility. We will not be out there working on problems, when under its influence. As a minimum result of its expanded use, we will have officers of the law collecting blood samples from drivers at the scene of auto accidents. Chemists will be analyzing this blood for marijuana drunkenness. As a more serious effect, we will have more individuals withdrawing from life and society, thus missing the excitement of personal advancement.

Our search for a different "trip" uncovered PCP, which does not seem to satisfy the image of "angel dust". In fact, this chemical promotes aggression and creates quite unfavorable behavior among many users. What we hear from addicts is that their indulgence messes up their brains, while it produces a craving. We are almost certain to learn more about the undesirable effects of our absorbing this material into our systems. Still, at present we must class this drug as perilously habit forming. We are not likely to improve our personal performance by this escape route.

As chemical indulgers, we had the misfortune of discovering LSD, which is a relatively dangerous drug with widely differing effects. From use of this material, we may sustain just light-

headedness, or wild-dream condition, or drunkenness or even unconsciousness. Then, if we do much indulging, we are almost certain to suffer addiction and various undesirable side effects that we cannot predict. Besides, worshiping this chemical increases our irresponsibility more than most other habits. So, we have difficulty occupying a normal place in any community. Employers do not want us on the job; families cannot stand our presence in the home. Much of our attention is taken-up with acquiring the right dose of our drug to give us our special "trip".

We might make a bigger mistake and take up heroin, which is strongly addictive and has greater toxic effects than any of its rivals. Then, if we are deprived of our drug, we first become morose and next a little wild. We might even become savage before we can provide ourselves with our means for escape again. Even though our craving demands another shot, we may take more than our system can handle and we may assume a drunken stupor or wild-dream unconsciousness. Left to ourselves we have considerable difficulty telling whether we have had too little or too much. So, we hear that tens of thousand of heroin worshippers die every year from overdoses.

We do not need to analyse effects of more "high" drugs to arrive at some conclusions about their perverting our self-esteem. Use of these chemicals make us obsessed with self. But, at the same time we are quite insecure and filled with anxieties, except when we are high. Thus, down deep our slavery gives us contempt for self as well as disdain for others. We have seen that the physical aspects of our degeneracy frequently shows up in deterioration of our useful skills. Also, our mental debasement is evident from our decrease in attention and concentration on serious thought. We can certainly trick ourselves into irrationality in these beliefs. Then, their greatest failure reveals itself in our being unable to develop our important warm feelings. No belief in chemical escape is likely to give us any relief for our serious troubles.

Our "high" drug beliefs seem to create both personal and group withdrawal from our societies. Quite naturally, governments have made traffic in these drugs illegal and so we must practice our worship in secret. Also, effects of these drugs are difficult for non-believers to appreciate. Thus, usually we only want company of others who indulge in our particular chemical. We may show actual hostility toward non-believers in our special drug.

As we take-up with chemicals that are more difficult to get, cost of our "high" drugs threatens our social stability. Each of us needs a substantial increase in our income to pay for our fixes. At least, by the time we are addicted to the most costly, we will lie, cheat, steal, assault and even murder to get the money with which to support our habits. Naturally, we carry-out our armed robberies or assaults where our chances are good for acquiring valuable stolen goods. As addicts, we may follow the well-to-do around assaulting them wherever we can find them. Thus, those of us who have much wealth flee to our walled dwelling areas, with guards at the gates, and our cities become increasingly uninhabitable.

Eating For The Sake Of Eating

Everyone of us needs enough food. Sufficient food, containing all of the essential nutrients, is quite valuable for each of us to consume in problem-solving. Our human bodies are biochemical machines and our food intake must supply the necessary ingredients for maintaining our activities. We are quite different machines with substantially differing needs. Then, the amount of nutrients that we must consume bears a certain relationship to the amount of energy that we exert.

Our food requirements create a demand for an astonishing assortment of materials. Among these essentials, a broad spectrum of proteins seems to be what is most likely to be lacking in our diets. Our starvation is often due to a poor distribution of proteins in what we eat. Vegetable oils and fats are valuable food materials, particularly when they come from grains and leafy vegetables. We can get considerable energy, after these foods are digested. Carbohydrates, containing starches and natural sugars, are also necessary foods. But, we may consume these materials in adequate amounts, while eating our grains, vegetables and fruits. If we do not eat sufficient quantities of these basic materials, we can become severely handicapped.

During the twentieth century, nutritionists have discovered a long list of vitamins and minerals that are essential for our good health. These researchers have unearthed an astonishing amount of information about our vitamins. But, much more knowledge will be necessary before we will be able to deal progressively with our nutrition problems. Quite gradually the value of an increasing number of mineral components of our diets has come to light. Many of these inorganic constituents of our food play indispensable roles in the action of our bodies. Thus, the total

number of necessary food materials must grow steadily and this information must be distributed better, before we can make our increasing progress. Our "well rounded" diet must stop being a top-secret nutrition mystery.

We must avoid eating too much food, if we want to expand our efforts on improvements. Intemperate feasting on tasty delights can create a special belief in indulgence that leads us away from our work on problems. Among too many of us, our insidious emotional compulsion becomes eating for the sake of eating. Our consuming a moderate amount of nutritious food at regular meals can be enjoyable for everyone. But, our eating more food can be still more of an ecstatic seduction for those who love those delights. Also, our eating can scarcely stop in our attempt at complete gratification, when we are hooked. Any strong belief in such indulgence crowds our lives by preoccupation with appetite. Here, we can escape awareness and can be too busy eating to do anything about our serious human problems.

Those of us who are believers in "eating for the sake of eating" often show poor judgement in kinds as well as amounts of food eaten. We select purified carbohydrates with lots of refined sugar over vegetables and choose sweet stimulants instead of fruit juices. Our tastes may become distorted, so that the flavor of sweets is the only one that satisfies. In this case, we seldom aim at the mystical "well rounded" diet. We just settle for a "well rounded" figure and more often end up with some worse affliction. Then, we sometimes adopt fatty meats as our indulgence, only to develop other disorders. When we suffer from various types of malnutrition, our tastes may turn very bitter indeed. All together, our indulgence in irrational eating deprives us of our satisfactions of adjusting our food input until we have improving health.

Other Escape Routes

We have a number of other preoccupations in our lives that we can easily convert into indulgences. Such habits include, obsession with thinking about sex, extensive watching TV, excessive following of sports, attending aimless meetings, belonging to some cult, reading all of the novels and overindulging in recreation activities. Most of these activities are capable of providing some pleasure and our lives may need a limited amount of this enjoyment. But, we must learn to limit our self-gratification by measuring up to our many important

responsibilities, if we want more satisfactions.

We often have difficulty determining when we have dropped our responsibilities and have adopted a belief in indulgence. In fact, any such decision must rest largely on what we do not do. If we are occupied in some self-serving activity to the degree that we are scarcely aware of surrounding difficulties, we may have adopted an indulgence. Nothing keeps us from working on our problems like obsession with some special self interest.

Exhibiting Withdrawal Behavior

Our work on personal difficulties stops, if we develop life patterns in which we refuse opportunities to improve ourselves. When we back away from our own problems, they seem to get bigger and more serious. If we turn and run away from them, our troubles tend to follow and overtake us. Our struggle to make our lives better demands that we face up to our difficulties, understand what relief is needed and do something to make these corrections.

We will not participate in social improvements, if we withdraw from cooperative interaction with others. This tendency to be self-centered gives us a lack of concern that isolates us from the progressive parts of our societies. We cannot expect our forward looking organizations to accomplish their goals, when we show little responsibility to help. Nothing blocks social advancement as completely as regressive inertness.

One of our most dangerous departures from working on problems can result from our ignorance of the rest of the world. We are in trouble, when we do not realize that we live in a world of many nations that must get along together peacefully. Among some of us who are withdrawn, we have such a small number of international contacts that we scarcely know that other countries exist. In other nationalists, our interests are so wrapped up in our own country that we do not even think of the rest of the world. But, our belief can scarcely come to life in such an atmosphere of international unawareness.

Even though we learn what is in our world, we may withdraw into our own country, if we cannot develop international concerns. But, we will miss the excitement of international problem-solving, if we avoid the responsibility of cultivating world interaction. When we know that some countries are highly disadvantaged and we do not take steps to help them, we are lacking in dedication to improvements. In case we learn that some foreign government is practicing genocide, we must arouse

world opinion to stop this terrible action. Any failure for us to take a vigorous stand in favor of universal human rights makes our belief inactive.

If we spread our belief, our pride in country must become the type that generates enthusiastic world cooperation. Here, our efforts must focus on several valuable elements in world interaction. We must advance the cause of universal education, in which the masses become trained in problem-solving. Our objectives must include the promotion of constitutional representative governments that establish substantial individual freedom. Such struggle must cultivate well balanced organizations of economic systems in every country. Also, we must emphasize the development of better communication between all societies. Before we can make realistic predictions that our belief will expand continuously, we must assume that nations will make progress working together.

Encourage Conditions That Lead To Violence

When our belief fails to advance at an adequate rate, we might suspect the presence of harmful emotions that lead to violence. Even if we have considerable experience working on problems, we may feel annoyed over negative results of our efforts. But, the results of this experience must eliminate fears, selfishness and jealousy or any other sensation that triggers spontaneous anger. Then, if our anger generates mechanical assault on another person, we have lost most of our skill in coping with difficulties. Our making improvements demands a calm and peaceful approach that displays considerable tolerance. Our retaliation does not give our action in doing things better any chance to work.

If we attack another person with the idea of getting revenge for some mistreatment, we have abandoned our belief in advancement. Our struggle for improvements becomes impossible, when we allow hatred of people to enter our lives in the form of retaliation. All of us have certain disadvantages, some of which may have been the result of mistreatment. But, in our belief in doing things better, our dedication must accept what abilities we have with all of their drawbacks. Then, we must determine to improve them and to use our greater skills in our work for more improvements.

Our resorting to violence in self-defense diverts us from our belief, even when we feel that we might be put down strongly or injured severely. Usually, our experience struggling for

improvements destroys artificial need for protection, so others can scarcely assault us. Also, we have constant responsibility to check aggression. Then, complete dedication to working on problems creates its own feeling of self-importance that resists outside attack.

Our work on problems may suffer restraint, if we are unable to control crime and terrorism. Some information indicates that much violence by criminals has become a business. Still we recognize that the majority of our personal violence arises from poor experiences. Such recognition suggests the need to understand the criminal mind. We must try to analyze the reasons for people turning against society, like obsession for notoriety, hatred of some people and demand for satisfying an indulgence. Our obligation is to detect the tendency toward anti-social behavior in children and apply preventive measures. 376

Situations that are quite likely to block our work on problems may arise from some of us holding on to totally intolerant ideologies or religions. Some aggression may be built into our beliefs, as is the case in communism and fascism. Even so, we may not favor violence until some threat to our sacred ideas seems to appear. But, when the real or imaginary menace emerges, we usually react quite fiercely. Here, what stops our progress is our unwillingness to search for better ideas with an eagerness to settle for a small step upward.

Our belief may not expand at a good rate, while we have a selfish nationalism as the primary image of our foreign policy. When we are only thinking about our own country's best interest in a narrow-minded way, we have lost contact with problem-solving. We must think in terms of our one-world where we are all working together, if our improvements can continue at a good rate. Actually, we can lose our national eminence most easily through failure to cooperate in preventing international difficulties.

We stop much of our work on improvements, when we develop national fears that lead to building excessive armaments. Our better world will probably need an international police force. But, we will scarcely make progress toward global peace, when we have an arms race between antagonists in which each strives to have greater military strength than the other. In this environment, almost any unfavorable maneuver by the enemy can lead to retaliation. Then, the next step can be the massive violence of war, which may be the last stage of our civilization.

CHAPTER 37

HIGHLY PROBABLE ACCELERATION IN RATE OF DEDICATION

Why can we expect that Problem-Solving will show considerable increase in rate of growth in the future? 377

We must anticipate that all of us will be drawn into *Problem-Solving* at a generally increasing rate. At the same time, many favorable signs of our growing struggle for advancement are somewhat confused. But, this turmoil suggests primarily that resistance to various types of progress is stronger than we might hope. Thus, our arguments for acceleration in our overall efforts for improvements must consider strongly the evidence in our vast expansion of human contacts and our enormous technological development. Some exciting parts of human life are getting better at a more rapid rate than we can imagine. We seem to respond more favorably to our challenges to get involved, as our problems increase at a greater rate and become more critical.

As we become more aware of possible problems and more concerned about catastrophes that might occur, projects to prevent difficulties come to life faster. As time passes, human responsibility for inhibiting unfavorable occurrences seems to awaken at an increasing rate. This may be the reason that our future plans for achieving growth in our efforts to achieve progress show signs of acceleration. We have many bases for being quite optimistic about the future of Problem-Solving, even when our belief may have its downward as well as upward trends.

Science Escalating And Showing More Cooperation

We can expect much greater endeavors to relieve difficulties, because scientific training is spreading and improving. Our educational processes are filled with exciting searches for more objective knowledge and better comprehension. When we launch our scientific careers in the future, we may even adopt an interdependent series of studies. We will have our specialties, but may have an interest in understanding a large number of activities in our Universe. We can observe this trend in most introductions to science that are taught in our schools. Our training in these disciplines helps us participate in many programs to uncover more insight into reality.

Our progress in science is bound to be stimulated by the extraordinarily sophisticated tools that we keep developing. Even now we can use an increasing number of radiations to make our observations of position and structure for objects in our universe. Identification and analysis of matter is becoming more and more a computer operation. An astonishing number of measurements of quantities associated with size, distance and time continues to be more accurate. Much of this data can even be relayed from outer space. Then, we can carry out our complicated mathematical calculations with greater and greater ease. All of these instruments are certain to become more and more plentiful in the future.

The significance of problem-solving must be reinforced by the broadening and deepening of science. Our scientific effort has become a vast concerted struggle for universal understanding. We have increased the number of different fields for our investigative activity at a remarkable rate. Then, the depth to which we probe for understanding grows steadily greater. So, our broad picture of our Universe develops details with time that are quite encouraging for our belief. The excitement of our scientific investigations must give us hope that our learning will expand without restraint.

We can increase our assurance of progress, when we observe an improvement in the focus of some scientific studies. While we maintain our high level of research in space, physical and biological sciences, more investigations seem to be centered on critical problems of human beings. Thus, we carry out considerable exploration of food productivity and troubles related to actual crop production. Our possibilities for obtaining energy from inexhaustible sources receive increasing study. Also, our research shows expanding promise of helping us with our bodily

needs, our mental difficulties and our emotional distortions. We even give hurricanes and earthquakes a great deal of attention.

Our anticipations for expanded human understanding can grow as we see scientists learning to work together. We have many differing theories about our more complex operations of the Universe. Still, few of our speculations seem to acquire sacred acceptance and we seem to have less bickering about who thought of a new idea first. Actually, in increasing areas of research, we have considerable scientific team work. Then, we have annual conferences where many workers discuss different ideas in detail. Our scientists may be becoming much more concerned about making progress than winning a Nobel Prize. Such interaction gives us every reason to predict a continued acceleration in our working on most problems.

Work Expanding On Our General Personal Problems

We can predict that Problem-Solving will demonstrate greater strength through our spreading knowledge about physical health. Our efforts are developing the potential for eliminating much of world hunger. We give our human nutrition increasing attention; we teach more people the hazards of poor eating habits. So, all people can expect to have increasing information about how to supplement their diets and what materials to avoid in their food. We are even making some progress in expanding productivity and advancing production and distribution of food all over the world. Further, the purity of the air that we breathe will definitely receive greater vigilance. In addition, those many measures for providing relief for our sickness and accidents are certain to improve. Even our means for paying our health care bills through insurance seem to be gathering momentum.

Our opportunities for learning seem to undergo exciting advances. We have discovered many ways for improving education for everyone, which we can put into effect, as soon as we invest more tax money for this purpose. One of our important disclosures is that our learning process should start when we are quite young. Then, our increasing awareness of the need for knowledge makes us expand education relatively satisfactorily for every age. We even seem to maintain our willingness to help pay for educating others.

The structure of an average school curriculum shows signs of moving in the direction of problem-solving. We can get the feeling that our children are learning more things that are useful

than most of us did in the classroom. Gradually, our school courses are including more subjects that are practical, like how to look after our own health, how to think more accurately, how to control our emotions better, how to work together with more harmony, how we might make our economy work more smoothly and how our government might provide equal justice. Our rules for grading may even become more meaningful and students may even be made aware of the basis for their grades. Schools must be improving somewhat as courses acquire more substance and learning receives better evaluation.

We have uncovered an increasing number of valuable educational ideas and procedures. Learning frequently requires some stimulation that opens-up the mind and arouses motivation. Also, we are discovering that students need to be doing something interesting to drive home new knowledge. When we want to instill knowledge readily, we must start with what is known; when we want to develop training effectively our appeal must be attractive. Further, we have demonstrated the special advantage of one-to-one teaching methods. Schemes are becoming more available to teach us knowledge more continuously and how to use our training more successfully. 380

Expanding channels for acquiring information help us materially to work on our problems. We have various kinds of media and we have many chances of using them for learning. Enormous numbers of books, magazines and newspapers are available in our growing library facilities. All but a very few of our homes have TV with which we can get news from far and wide. We may never be able to know all of the things that are going on in our world. Still, our possibilities for becoming familiar with facts seem to expand substantially.

Increasing opportunities for entering the world, where we experience association with people, make us grow steadily. Many of us can travel to foreign countries, because fares are getting relatively inexpensive. Good understanding among human beings seems on the way upward. We have astonishing chances to participate in performing arts internationally. While singing, acting or dancing, we can transmit feelings that strengthen our relationship with people. Through our many skills in expression, we can expect to maintain greater dedication to working on problems.

We can detect significant expansion in creativity, which indicates our deepening devotion to coping with difficulties. More human beings are increasingly able to devise new concepts,

better procedures and more advanced tools. Quite obviously, when we develop these significant inventions, we have as our purpose some contribution to human improvements. So, our expanding creativity gives us greater possibilities for feeling a more reasonable mastery of our situations.

While we still have an oversupply of negative emotions, our human trend is toward warmer feelings. This trend seems to make progress slowly and shows periods of regression. But, we can detect some lessening of fears and anxieties, while our confidence and courage gain strength. Also, selfishness and greed keep losing a favorable image at the same time that altruism and generosity become more highly regarded. Even our bitterness and hatreds command less and less respect and our tenderness with its accompanying compassion commands increasing esteem. The evidence that our self-satisfactions are eroding away shows up in our expanding use of counselors for help with our emotional problems. Then, our outlook on life displays expanding horizons. So, a larger percent of us are getting to like ourselves better when we are not so self-centered.

Social Relationships Improving 381

Judging our social relationships, we need to be critical of the past and analytical of the present in order to be optimistic about the future. We must admit that our human associations have not been wonderful in former days. In fact, selfishness, deceit and brutality have dominated a large portion of human lives from the start. Historical studies give us altogether too many examples of our lying, cheating and stealing. So, our attitudes and performances out in the world are much in need of improvement. But, we can assess that our social actions are getting better and our outlook for enriched interrelationships is definitely favorable.

More of us really seem to care about most of the unfortunate situations in our world. We can discover growing concerns about most of our human difficulties. So, we find increasing numbers of us are willing to make considerable sacrifice to help others in most countries. Our beautiful feelings reach out to more people; our quality of world compassion deepens perceptibly.

Continued expansion of our belief becomes probable as we struggle, with some success, to decrease discrimination in our society. We even have a chance of ratifying the equal Rights Amendment into our USA Constitution. Civil rights movements seem to receive an increasing amount of support. Also, we have

growing broad-based efforts to desegregate schools, while the quality of all education is made to improve. Thus, we can see equality creeping in to education, employment, housing, health care and other services for different sexes, races and national backgrounds.

Many groups of people seem to work together better on all kinds of problems. Some of our businesses are run largely as cooperatives with workers and consumers involved in management. We can enlist volunteers for helping people at an ever increasing rate. Our addicted, mistreated, handicapped and elderly receive considerable of this help. Then, our increasing feeling of group identity enables us to develop better consumer organizations to make life safer and more open. We even use our more harmonious feelings to exert better group political action for a more just society and a more responsive government.

Our family organizations show signs of moving toward enrichment, even when they frequently end up in divorce. We are growing more aware of the hazards of incompatibility and lack of identity for couples. So, many couples give increasing indication of trying to determine the chance of success for their marriage, before taking this important step. Also, we can get enhanced training in adjustment to a developing family life, including how to treat children better. Children can receive quite warm preparation for life in many homes, even when both mother and father work. And, our smaller families may make our move toward home enrichment more certain.

Another indication that our belief will continue its acceleration appears in our improved action on crime. Our greater awareness, concern and determination seem to be leading to some understanding of the criminal mind. In spite of our present high crime rate, we might reasonably predict that we can make increasing progress in preventing illegal acts that haunt our society. We might even expect better law enforcement and a better judicial system, if we continue to provide the increasing support that seems to be developing. Then, our prison systems show some signs of giving our criminals more reasonable treatment and more attention to rehabilitation.

Our great fear of organized crime and terrorism suggests that we will concentrate enough effort to control these afflictions. Violence that becomes a business is usually quite lucrative and strongly resists control. Still, our dedication to an impartial legal system keeps us working hard to eliminate commercial enterprises that operate outside of the law. Actually, some

organized atrocities may persist, because we think that we have few peaceful ways to change tyrannical governments to democracies. But, such revolutions appear less effective in making governmental improvements than orderly popular demands. Then, we detect a worldwide feeling that any great increase in illegal acts of violence across national boundaries may create our strongest pressure for world government.

Closer human connections between societies must help in our expanding horizons. With our more advanced means for communication, we have more friendly contacts with more kinds of people. As more people move around over the world, our chances of having pleasant international relationships increase steadily. When we develop better human bonds, we can accept more responsibility for joining the world; when we have more identity with more people on our planet, we naturally become more involved in improvements.

Economic Problems Facing Better Resolution

Predictions of continued increase in human improvements seems realistic, because we have a growing understanding of Hybrid Economics. Presently, our ignorance of what has happened to make our exchange processes quite complicated is substantial. Still, we have expanding knowledge of how these economic systems are connected together. Thus, greater appreciation of a delicate balance between our essential transactions seems certain to develop.

We show increasing comprehension of the importance of government in providing this balance in our economic systems. We give private enterprise the major responsibility for our exchange processes. But, hybrid economics tells us that it is quite dependent on the actions of our governmental units. Evidence suggests that we will continue to support the many systems for which government provides much of the money. Any suggestion that our authorities should keep their hands off of all businesses meets with little real approval. We want our governments to be more compassionate, more efficient, less burdensome and less vulnerable to being ripped off.

Our prospects for successful lives show some continuing progress, as government does a better job of helping us handle our economic problems. We get better information about how our general economy is progressing. Consumers get better protection; essential businesses get better stabilization. Evidence suggests that government helping operations are carried-out

with increasing efficiency.

Various social needs continue to receive increasing attention by those in authority. As examples, government provides unemployment insurance for those of us who are between jobs, Social Security and Medicare for the elderly and substantial assistance for all handicapped. We have many kinds of assistance to make life safer. Then, we can anticipate considerable help to pay our health care costs in the future.

Our efforts on advancement suggest that we will continue to increase production in our essential economic systems at a good rate. We can expect government to expand both research on technology and subsidies to business, so that we can develop alternative energy sources and can utilize many household and industrial wastes. Our housing industry is almost certain to receive additional boosts, so more of us can have reasonable places to live. Then, we can count on our agricultural production being increased as our demand for food becomes greater.

We are learning more about controlling inflation as this problem becomes critical. Our experience tells us that price increases in the consumers' economic system depend on expanding costs that are added to goods, growing income demands by suppliers of services as well as the increasing amount of money available for our exchange processes. Thus, inflation is built in to our general economy. When OPEC countries raise the price of oil, consumer goods cost more; if a country with raw materials decides to charge more for what goes into our production, we must pay more for our manufactured product; as labor demands higher wages and benefits consumers must pay the added price; because consumers realize that the price of goods and services is going up, they will borrow the money to buy now instead of saving to put down the cash. We are recognizing that any approach to price stability requires enormous cooperation between energy suppliers, raw material vendors, government, business, labor and consumers. Such generally effective proposals for relief from inflation almost certainly call for government standards that would limit the rate of wage and price increases. But, we have learned that a wage and price freeze is an unrealistic and disadvantageous procedure that does not work well.

Any sizeable restriction in production of goods and services for the consumer market contributes substantially to inflation. And, our entering the arms race causes us to waste an enormous amount of our effort in producing goods and services that never

become available for the consumer. So, while working on peace problems with more vigor, we can hope for decreased military expenditures. As we do a better job of controlling the afflictions of preparing for wars, we may be able to expand our useful production, distribution and consumption throughout the world.

Economic progress seems to be given continuing probability, while our policies for taxation develop somewhat more fairness and better strategy. We realize that government funds must come from consumers rather than businesses, provided our businesses make more reinvestments and show more reasonable profits. Also, we demand that the per cent of our income, which each of us must pay government, must increase with our ability to pay. These policies have led to the graduated personal income tax, hopefully with fewer loopholes. Also, we have relieved ordinary businesses of some assessments, while introducing an excess profit tax for the real gougers. Then, our property tax structures require continuing modification as we have many tax revolts that make some strategic as well as some regressive changes. In addition, our sales tax shows signs of being useful in promoting conservation.

Our continuing advance toward doing things better is frequently evident from the increase in business accountability. Presently, we are experiencing a movement toward more democracy in company management. We have discovered that worker role in management can boost productivity and fight many industrial problems. Our new management set up even seems to do an improving job of planning for future industrial development. Businesses increasingly tend to minimize waste, reduce costs and offer more value for the consumer's real dollar. These results may show signs of closing some gaps in our many economic systems. Also, we can hope for a decrease in the rip-offs of consumers and governments, whereby the rich become the super-rich. All of this increase in cooperation can build a stronger economy as well as a more vigorous society.

World Interaction Advancing

Our optimism about the future of mutual action between societies gives us hope for the expansion of *Problem-Solving*. Thus far, our twentieth century has been a period of extraordinary turbulence. War, famine, depression, genocide, social upheaval and political revolutions have been the order of the day. Thus, if we have learned about any preventive measures for

these tragedies, we ought to be able to move more steadily in the direction of world cooperation. Experience must tell us that our working together as societies requires large scale understanding of our mutual problems.

One important step in the direction of our opening up world interaction is our improvement in communication between countries. We know that numerous societies are largely isolated by their ideologies and news suppression. So, they have difficulty learning what is going on in our world. Even in the USA information about foreign countries is limited. But, our communication processes are expanding through radio, TV, the press and the tourist trade. Thus, our world is getting smaller and we can expect that more of us will continue to get better and better acquainted with more and more people. 386

We can observe a pronounced spread in the availability of services due to increase in education and understanding of people. Our most dramatic example may be the expansion of health care to almost every society in our world. Even our attack on hunger has strong momentum in most areas, as we comprehend what is needed to eliminate it. Then, technology tends to develop in remarkable places where knowledge penetrates. All of this progress makes us feel confident that our mental abilities and positive emotions will receive better training in the future. The added compassion that we achieve, while working on critical problems with more insight, seems bound to make us more helpful.

We might easily predict that types of government will improve in our world, so we have a chance to build better interaction. Countries that have been moving away from colonialism and toward self-determination have not widely embraced representative government as their authority. Their people seem to have grown accustomed to having absolute rulers. Still, we must expect that democracy expands as knowledge and understanding get more widely dispersed and vice versa.

Different political, economic and religious ideologies, which make our world interaction difficult, respond to problem-solving. As an example, tyrannies suppress people. So, we develop the cleverest ways to enlighten them so they can move in the direction of self determination. As we well know, communism promotes revolutions in societies that keep people poor. So, we exercise the greatest strategy to prevent civil wars from breaking out in disadvantaged countries, unless the people become involved. Also, some religious differences create extra-

ordinary tensions that may block any kind of cooperation. Thus, we use the remedial action and persistence of problem-solvers to make progress in many of our world relationships. 387

We can expect improvements to accelerate, because feelings between races seem to get better more rapidly. Any appreciable decrease in racial prejudice in the past has usually taken many centuries of time. But, we have observed a speed up in our tendency to disregard differences in our skin color or facial features. Close association between our many races has resulted in a greater rate of increase in our feelings of identity. Now we are not so likely to put other people down after we discover that they are just like us in most respects.

As we build a better world governmental organization, principles of better representation become increasingly evident. One conviction is that fair representation in a world authority cannot give a small country and a very large country equal voice in decisions. Another reality is that many continental areas in our world have their own problems that might not have world wide interest. Also, a small nation might get more help from its continental association than from the whole world. Thus we imagine compact groups of countries forming federations for better representation in the central organization and for purpose of working on group problems.

We can visualize federations of countries that might send representatives to a third United Nations Executive Board, which would have the world authority to carry our peace-keeping actions. Then, our UN would have the Council, which might have the structure as at present but which should operate under two-thirds majority vote. Also, our world organization would have the present Assembly with representatives from all countries. These two present bodies would send their recommendations to the Executive Board for implementation or enforcement. In these possible federations, we might list: Canada, USA, Central America, South American Alliance, Organization of Southern African States, Organization of Northern African States, Western European Alliance, Eastern European Alliance, Middle East Federation, Soviet Russia, Communist China, India, South Eastern Asian Organization and The Pacific Alliance. We have the start of several associations, like NATO, that might develop into some of these federations. Even with this brief experience, we are beginning to see some beneficial effects.

Our predictions about interaction include a forecast that

USA will lead the world toward disarmament. But, if we assume this responsibility, we must elect national leaders who will reverse our past trend toward developing more weapons and more destructive ones. We must assume this role for three highly significant reasons. The USA has been the world leader in the development and use of nuclear arms and must be the leader in reducing the existence of these critically destructive instruments. Then, our biggest uncertainty for the future of our species on earth lies in a continuation of the arms race. Also, our military operations must not receive such massive per cent of our total economic exchange processes.

Experience may be teaching us that an arms race cannot generate peace. Any aggressive spirit of developing an increasing capability for attacking or repelling an enemy seems to be the best way to stir up enemies. Having more and more destructive arms simply increases world tensions; making more accurate delivery systems for hydrogen bombs simply stimulates counteraction by enemies; creating a neutron bomb simply confuses the military picture for all sides of a possible confrontation. We ought to be able to see that all we really need is a United Nations police force. Our entering the arms competition and trying to become capable of the greatest destruction makes quite fragile world harmony and our own security.

Our effective action to create representative governments around the world is one of the basic essentials for our security. We must know by this time that communist countries do not intend to attack any strong democracy, any more than we intend to attack them. To communists, the revolution means violent revolt in disadvantaged countries that are ruled by dictators, followed by the setting up of their rigid authority. This type of uprising is the mechanism that communism has nearly always used to come into power. To counter these revolutions, representative governments must promote global education and bring pressure to bear to eliminate world tyrannies. We can help ourselves stay secure by not defending dictatorships, particularly if we can initiate peaceful democratic revolt. Security for any democracy demands more and better democracy.

We are learning that substantial economic insecurity accompanies our military efforts. We have difficulty discovering how much money we spend on defense, just because we think that our enemies are spending more. But, this waste of money must be in the tens of billions of dollars per year, which might be

spent in other economic systems to raise our standard of living materially. As an example, our military system employs an astonishing number of scientific and technical people in war research and destructive activities, who might be advancing technology and uncovering useful understanding. We also waste a tremendous amount of energy in our preparation for some future conflict that must never occur, when we might be using such efforts to generate new sources of energy. One of our most exciting peace time processes might be the partial conversion of our military economic system into the production of things that all of us could consume.

Our evidence is relatively clear that we have peaceful means of achieving world peace that have no dependence on military strength. In fact, according to our definition that real peace is a peace that gets more peaceful, we have no effective alternative. Our efforts to create international harmony seem to require reciprocal communication that leads to greater understanding and better identity among nations. If we want to avoid our confrontations, apparently we must develop world friendship with increasing warmth. With this growing cordiality, we appear to have our greatest strength and unity as human beings.

Our peaceful approaches to building peace in our world have worked rather well in the recent past. To make this point, we need only to mention Japan and West Germany, who were our deadly enemies in World War II, but who are now among our good friends. Whenever we have felt a great surge of unity in strategic parts of our world, we have experienced enthusiasm for good will; whenever we have participated reaching out to build understanding, we have felt the special warmth of increasing friendship. Our realization must be that we have an obligation to develop sympathy for all possible antagonists. Then, we need to join forces with all nations to combat the lack of world cooperation, which is our most serious enemy.

Other Beliefs Converging On Problem-Solving

We can be hopeful but not overly optimistic about other beliefs working their way into *Problem-Solving*. Such convergence on dedication to making our lives better must be a slow process, because we tend to be apathetic unless we really want to learn how to go upward. We must persistently try to make improvements to catch our excitement and this exhilaration must create its own vitality. Thus, our analysis of progress among human convictions must look closely for evidence of this

increasing struggle for advancement.

We have some indication that the destructive belief in self-gratification will relax its grip on human beings. Our devastating indulgences are far from rewarding. Mind-altering drugs have so many side effects that we have increasing chances of keeping them from being highly regarded. Hazards of drinking alcoholic liquors are becoming recognized rather widely. Our experience suggests that this practice must be restricted substantially, before we can make progress on a large number of our problems. Improvement in our health seems to call for decided reduction in our tobacco addiction. So, we even have extensive programs for helping us give up our habit of smoking this weed. Other ways of pampering ourselves are quite extensive, but open to remedies. We can even learn about adjusting our diets to improve our health rather than gratify our taste. In some respects, we seem to increase our appreciation of health and safety instead of our demand for self-indulgence.

Special groups with arbitrary dogmatic doctrines sometimes become concerned about humanity's advance. Thus, we have the emergence of specific organizations to help people who are in trouble. Many of these groups are interested in eliminating world hunger; some are devoted to remedying emotional difficulties; others are dedicated to promoting world peace. Economic theorists may develop social concerns. So, our various types of communism even show some signs of evolution. Thus, we have evidence that Italian communists want to use a representative government in their socialist experiments. All of these movements toward making our world better and more peaceful will help spread the coping with difficulties.

Another reason for thinking that our belief will continue to grow is the penetration of rationality and responsibility into mystic religions. Some of our beliefs that in the past have concentrated on symbols of the supernatural and rituals of the occult seem to show signs of joining our struggles for improvements. We can detect in several classical faiths a decreasing dependence on unreasonable authority. As rationality invades these religions they display less accent on their utopia and more stress on compassion and cooperation. We even find Christian churches training members for social action and sometimes for political responsibility. Women and minorities on occasion have managed to obtain positions of leadership in certain religious groups. What may be most significant is the expansion and deepening in warmth of such mystical beliefs. Apparently,

working on problems offers too much ecstatic attraction to be overlooked by some who have specialized in ritual.

Hopefully antagonisms between classical religions are declining to some degree. Discord over the differences in rigid mystic beliefs has resulted in an astonishing number of bitter conflicts throughout history. Even Catholic and Protestant Christians have engaged in cruel wars. And now, Islamic cults have become belligerent in their efforts to give themselves doctrinaire governmental authority. Thus, our assurance of human progress cannot eliminate the possibility of future religious confrontations. Still the movement of most faiths is toward tolerance. So, we can expect that all mystic beliefs will become more dedicated to solving human problems and to working for peace in our world.

POSTLUDE

What kind of summary could describe Problem-Solving well enough to give us a stimulating survey of its strength? 392

Shortened statements of an inner conviction omit valuable features. Certainly, any summary of our belief in improvements is not different. Still, immersion in *Problem-Solving* may be quicker and enthusiasm over its power may be more easily excited from a condensed version. After a brief postlude, all we may need to do in order to catch the spirit of this belief is to let our imaginations expand without restraint. At least, we can try to design this five-stage declaration as a stimulant to thought and an impulse to action rather than recitation. Our summary must express both trust in our completely consistent Universe and confidence in our ability to use our incomplete understanding of our vast cosmos in making human advances.

A. *As general principles about how our Universe works, we believe:*

1) (a) in an absolutely consistent Universe that is being created continuously and unwaveringly by rational action depicted by what we call rules (cosmic action goes on with enormous variation from the material to the human area, from the sub-submicroscopic to the super-supertelescopic, without departure from the reasonable).

(b) in these rules that give impartially predictable results (in an ultimate sense) at every point in total space, even though our tentative human statement of these rules may need frequent revision (thus our cosmic rules describe action that is rational by definition, so the nature and behavior of the Universe become logic).

2) (a) that, in our material realm (where our observations and measurements can be quite objective, highly reproducible),

science demonstrates the enormous usefulness of belief in this consistency and predictability for rules of the Universe, often providing mathematical expressions for results of our physical measurements.

(b) that, in our human area (including origin of life, evolution of species, reaction of human emotions and solving social problems, which events tend to be complex and therefore highly subjective, not very reproducible) experience shows us that our Universe operates by complex rules that are equally rational (in an ultimate sense although not highly predictable for us at present), so human feelings and relationships have cause and effect, real but too complicated to be exact.

3) (a) that such a mammoth system of orderly rules (objective and subjective), existing in every conceivable (or inconceivable) area of our Universe, is the vast action and feeling matrix in which we live, in the midst of our exciting physical, mental and emotional surroundings, where we must try to be physically stronger, mentally keener and emotionally warmer.

(b) that such conglomerate of cosmic rules is the only transcendent concept worthy of the awe-inspiring term, GOD (which expression we may use in an attempt to bridge gaps between religions, because we do not put-down religions for using such term in reverence when, by simply redefining GOD as "how the Universe works," we can join in giving this concept our majestic awe, even though we insist on using our redefinition, "how the universe works," particularly when we talk about solving our human problems), and we must give this cosmic concept our deepest respect, while we participate actively in the creative process of the Universe.

B. *As convictions about progressive human activities, we believe:*

4) (a) that each one of us can learn to understand and use increasing amount of our Universe's predictability in every known realm, which is our exciting contact with these rules that mirror the Infinite.

(b) that rules in the human realm, which tend to make determinism and predestination 100% (under which condition we would appear to be mere puppets), are continuously coming into our intellectual grasp, which decreases what we might call our action as puppets and slowly engulfs total predetermination into our expanding realm of human understanding (so, we can make more nearly free choices and, in increasing measure, we can join the puppeteers with the ability to control ourselves and

our surroundings) particularly if we stimulate ourselves to become more competent and more involved.

5) (a) that our expressions of deep warm feelings are very important means for enhancing the beauty and progress of our human situations, because tender emotions may be quite essential in coping with many serious human difficulties.

(b) that, when we adopt our problem-solving spirit with enthusiasm, feel our challenges with assurance, embrace our human responsibilities with determination and commit ourselves (in cooperation with others) to improve human situations, we get improved results (even if some emergency as massive as our population explosion might temporarily nullify our efforts), because useful problem-solving principles work in our human realm. 394

6) (a) that, after acquiring greater skill in our use of rules operating in the Universe (both objective and subjective), we become more creative constituents, who develop more extraordinary innovations for solving difficult problems (both material and human), which action in itself gives us adequate recognition for our spirits and egos, because progress makes us feel wonderful.

(b) that (working with others) we can help determine our own destinies and our society's fate, particularly if we struggle with difficulties according to their priorities, because problems of all of us intertwine into a vast endless composite that is open to greater understanding and improvement and we learn to work hard by having the fun of working hard, we develop a sense of duty by measuring up to more responsibilities and we advance toward moral excellence by building an enriched family life and a more cooperative society.

C. As tenets about how we solve problems with enthusiasm, we believe.

7) (a) that we must be undaunted by the thought that none of us will ever achieve maximum virtuous human performance or completely rational behavior, because we must realize that our limited understanding, capacity, intensity, creativity and involvement can still be enormously useful in overcoming human difficulties, as long as we are busy on all our problems and are injecting increasing compassion and cohesion into our world.

8) (a) that we have some of our deepest pleasures while we examine our thoughts to make them more meaningful, enrich our feelings to make them warmer and engage in remedying

each personal and social problem with the determination that "I am going to help do this job better and more peacefully, so I can get going on the next problem."

9) (a) that we must further improve both enthusiasm and results in working on problems through understanding principles more fully, learning better application methods, getting more experience and increasing our skills generally through coping with more difficulties, so we can create real centers of strength within ourselves, which enable us to overcome insecurities at any age and in any situation. 395

b) that we must strive eagerly for more nearly ideal human capability, because our struggle for improvement not only gives us maximum reinforcement, but is what an exciting life is all about, is our only escape from fantasy and is our only heaven of enchantment (right here on earth, right now in the middle of problem-solving).

D. As doctrines about forces driving us upward, we believe:

10) (a) that, when we reach-out for increased involvement in human problem-solving, our vital spark is stronger and we are under better ego stability as our motion upward accelerates (for our lives are similar to spinning tops, more stable at greater speed) and our skills grown stronger with greater use.

11) (a) that experience working on human difficulties gives us tremendous exhilaration and stimulation, including the excitement of a scientist about to make a breakthrough in human knowledge and the heroism of an ordinary human being sacrificing self to improve all of us and our societies, for we are part of the Universe in motion.

(b) that we do not really earn salvation, we acquire it automatically in the process of acting to enrich our vital relationships with others and our societies, because life moving upward is magnificent redemption.

12) (a) that competing with self is the most deeply urgent and satisfying way for us to play the game of life (while we participate in enhancing human existence), because self-improvement (without always trying to beat the other fellow) eliminates negative emotions, like jealousy, hatreds and fears, and generates friendly cooperation while we are all going upward together.

(b) that we do not have personal honor of the type that requires either defense from outside attack or retaliation, because few people (but ourselves) can assault irreparably our most precious inner possessions (after we reach maturity) and,

further, revenge does not work, as our problem-solving integrity demands soft responses to confrontation.

E. As our attitudes toward past and future, we believe:

13) (a) that we must learn from the past, because many highly useful rules of the Universe about improving human beings have been known for thousands of years (appearing in many religious and philosophical writings) and have been supplemented substantially in recent years.

14) (a) that in the future we must find very many additional rules and consistent, predictable phenomena of our Universe related to human beings and we must put both old and new principles into practice to advance people (for human possibilities for advancement are practically limitless, as far as we will ever be able to determine).

15) (a) that any responsibility for accelerated human advance is ours (in cooperation with others), because there is no one else to assume it and measuring up (by placing more thought, warmer feelings and greater effort where they are needed to cope with difficulties) means reasonably rapid continuing evolution instead of violent revolution.